PART I.] [MARCH.

HOOKER'S

ICONES PLANTARUM;

OR,

FIGURES, WITH DESCRIPTIVE CHARACTERS AND REMARKS

OF NEW AND RARE PLANTS,

SELECTED FROM THE

KEW HERBARIUM.

THIRD SERIES.

EDITED BY

Sir JOSEPH DALTON HOOKER, K.C.S.I., C.B., M.D., F.R.S.,

D.C.L. OXON., LL.D. DARTAR, AND CANTAB., CORRESP. MEMB. INST. FRANCE;

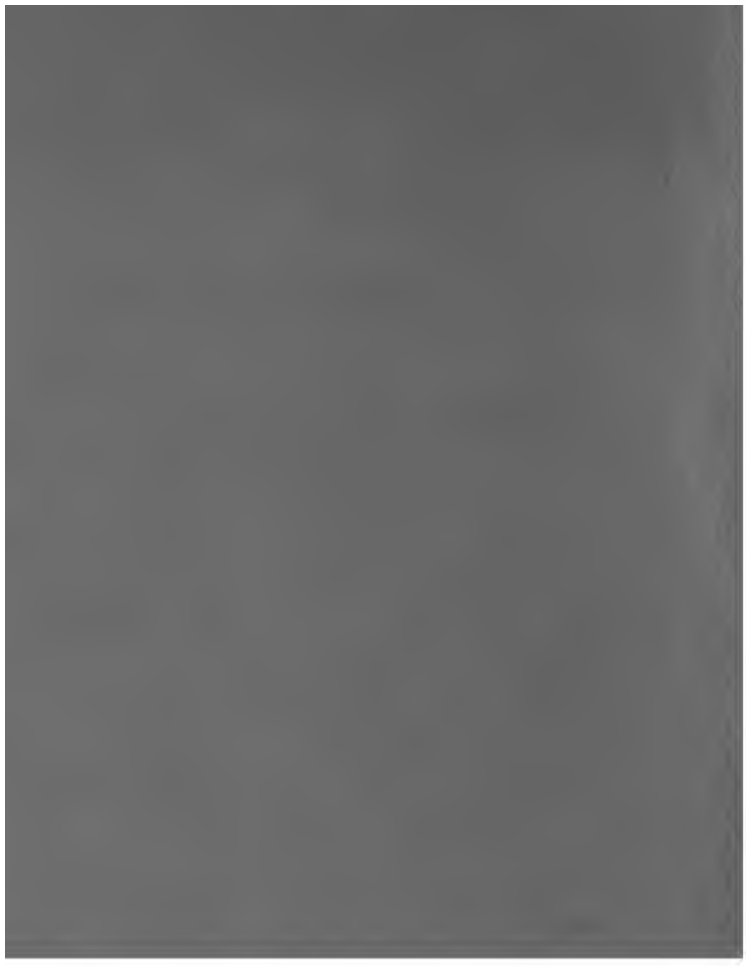
DIRECTOR OF THE ROYAL BOTANICAL GARDENS, KEW.

VOL. V.,

OR VOL. XX. OF THE ENTIRE WORK.

WILLIAMS AND NORGATE,
14, HENRIETTA STREET, COVENT GARDEN, LONDON;
AND 20, SOUTH FREDERICK STREET, EDINBURGH.

1883.



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VOL. V.,

OR VOL. XV. OF THE ENTIRE WORK.

PART I. 1401–1425, March 1883.
PART II. 1426–1450, December 1883.
PART III. 1451–1475, September 1884.
PART IV. 1476–1500, December 1885.

WILLIAMS AND NORGATE,
14, HENRIETTA STREET, COVENT GARDEN, LONDON;
AND 20, SOUTH FREDERICK STREET, EDINBURGH.
1883–1885.

Plate 1402.

RHAPHISPERMUM GERARDIOIDES, *Benth.*

Scrophularineæ, Tribe Gerardieæ.

R. gerardioides, *Benth. in DC. Prod.* x. 509. (*Species unica.*)

Hab. Central Madagascar, on dry hills of the province of Imerina, *Bojer, Lyall* 229, *Baron* 1170.

Frutex erectus glaber ramosissimus, ramulis lignosis ad apicem crebre foliatis. *Folia* opposita, sessilia, ascendentia, lanceolata, acuta, integerrima, rigidula, uninervia, semipollicaria vel pollicaria, siccitate nigrescentia. *Pedicelli* solitarii, axillares, erecti, uniflori, foliis subæquilongi, sursum bibracteati. *Calyx* obscure dentatus, 3 lin. longus et latus. *Corolla* expansa 15–18 lin. diam., segmentis orbicularibus 5–6 lin. latis flore expanso imbricatis. *Stamina* obscure didynama, antheris erectis oblongis. *Capsula* calyce paullo longior, compressa, apice truncata, stylo persistente coronata.—J. G. Baker.

Fig. 1. Flower with corolla and stamens taken away. 2. Corolla-tube cut open to show the stamens. 3. Back and front view of anthers. 4. Immature fruit. *All more or less enlarged.*

Plate 1403.

CARDIOCHLAMYS MADAGASCARIENSIS, *Oliv.*

Convolvulaceæ.

Cardiochlamys, *Oliver, gen. nov. Flores* bi- tri-bracteolati, bracteolis calyce brevioribus ovatis. *Sepala* inæqualia; 3 exteriora majora, ovata, acuminata, sub fructu valde aucta, cordiformia, membranaceo-scariosa, reticulata; 2 interiora minuta, squamiformia, sub fructu immutata. *Corolla* infundibuliformis, calyce 2–3-plo longior, 5-fida, lobis ovatis acutatis. *Stamina* 5, inæqualia, corollam vix superantia, filamentis filiformibus fere ad basin tubi insertis; antheræ ovato-lanceolatæ, sagittatæ. *Ovarium* in gynophoro columnari crassiusculo insidens, ovoideum, in stylum angustatum, uniloculare, biovulatum; stylus gracilis, elongatus, indivisus; stigma capitellatum, obscure bilobulatum. *Fructus* stipitatus, 1-locularis, 1–2-spermus. *Semina* albuminosa; cotyledones latæ, foliaceæ, plicatæ; radicula longiuscula, cylindracea, plicata.—Herba *volubilis; caules graciles, pilosuli.* Folia *alterna, cordata, acuminata, mucronata, pilosula.* Flores *racemosi, cum*

pedicellis tomentosis, bracteati, bracteis cordiformibus subsessilibus mucronatis sæpius deflexis. Calyx fructiferus 1–1¼ *poll. diam.*

C. madagascariensis, *Oliver* (*Species unica*); foliis cordatis basi sinu profundo ore sæpe contracto apice longe acuminatis acumine apiculato v. mucronato, pedicellis flore subæquilongis patentibus recurvisve.

Hab. Madagascar, *Dr. Lyall*; *Rev. R. Baron*; 'outside of Ambohimanga Forest,' Central Madagascar, *G. W. Parker*.

Folia 1-2 poll. longa; petiolus ½–¾ poll. longus. *Bracteæ* persistentes, foliaceæ, ½–¾ longæ, sessiles v. subsessiles, pilosulæ v. tomentosæ. *Flores* ¼–⅓ poll. longi, tomentosi; corolla extus tomentosa v. pilosula.—D. Oliver.

Fig. 1. Calyx at time of flowering. 2. Corolla laid open, showing insertion of the stamens. 3. Ovary and gynophore. 4. Vertical section of same. *All enlarged.*

Plate 1404.

BEMBICIA AXILLARIS, *Oliv.*

Samydaceæ, § Homalieæ.

Bembicia, *Oliver, gen. nov.* *Flores* in capitulis axillaribus subsessilibus turbinatis involucratis congesti, hermaphroditi. *Calyx* ovario adnatus, tubo supra ovarium producto, ore dilatato in segmentis 7–8 petaloideis uniseriatis inæquilatis linearibus diviso. *Petala* 0. *Discus* annularis, staminum basin cingens. *Stamina* indefinita, fauce calycis inserta; filamenta filiformia; antheræ parvæ, rotundatæ, apice obtuse apiculatæ, dorsifixæ, biloculares, longitudinaliter dehiscentes. *Ovarium* inferum, uniloculare; styli 2 (v. 3) filiformes, elongati, inferne sericeo-pilosuli, stigmatibus haud dilatatis; ovula plurima, placentis 2 parietalibus affixa, anatropa. *Fructus* monospermus. *Semen* albuminosum; embryo axilis, albumine paullo brevior, radicula supera cotyledonibus fere æquilonga.—Arborescens *v.* arborea *glabrata.* Folia *simplicia, alterna, serrata; stipulis obsoletis.* Capitula *florifera sæpius geminata terna folio multoties breviora, bracteis arcte imbricatis coriaceis exterioribus vacuis brevibus ovatis v. ovato-rotundatis, interioribus flores singillatim amplectentibus; bracteolis posticis bicarinatis.*

B. axillaris, *Oliver* (*Species unica*), foliis (*forma α*) ovato-ellipticis leviter falcatis breviter obtuse apiculatis 2¼–2¾ poll. longis (*forma β*) ovali-oblongis acuminatis falcatis.

Hab. Madagascar (*forma* β between Tankay and E. Coast), *Rev. R. Baron.*

A point of morphological interest, to which I do not, as I write, recollect a parallel amongst allied Dicotyledons, is the occurrence of a bracteole between each flower of the capitulum and the axis. This bracteole is bicarinate with ciliate keels and more or less deeply 2-lobed; possibly made up of two lateral bracteoles connate by their inner margins.

This plant is quite one of the most interesting of the many important additions made by Mr. Baron to the Madagascar Flora.—D. Oliver.

Fig. 1. Flower, and enclosing bract and bracteole. 2. Bracteole, dorsal face, showing ciliate keels. 3. Flower isolated. 4. Stamens. 5. Fruit with styles. 6. Longitudinal section of ovary. 7. Longitudinal section of seed. *All enlarged.*

Plate 1405.

RHAPTOPETALUM SOYAUXII, *Oliv.*

Olacineæ.

R. Soyauxii, *Oliver, sp. nov.*; arborescens, ramulis ultimis gracilibus glabris, foliis ellipticis obtuse acuminatis denticulatis membranaceis glabris brevissime petiolatis, floribus e trunco nascentibus fasciculatis breviter pedicellatis, staminibus pluriseriatis filamentis basi breviter coalitis antheris fere duplo longioribus, ovario 5–7-loculare.

Hab. Sibange Farm, Gaboon, *H. Soyaux.*

Ramuli lenticellati, fuscescentes. *Folia* 2–3 poll. longa, 1–1½ poll. lata, basi rotundata, venulis primariis utrinque 3–6. *Flores* 1¼ poll. diam., glabri; pedicelli glabrati, 2–3 lin. longi. *Calyx* patelliformis, margine crenato-undulatus. *Petala* basi brevissime coalita, ovato-oblonga, coriacea, æstivatione valvata. *Antheræ* basifixæ, oblongæ, obtusæ, apice poris obliquis dehiscentes. *Ovarium* depresso-globosum, glabrum; ovula ∞, horizontalia v. pendula, anatropa.

Related to *R. coriaceum*, from which it differs in its smaller more membranous and distinctly acuminate leaves, flowers from the old wood, and anthers considerably shorter than the filaments. Although I leave the genus in *Olacineæ*, to which order I referred it in the *Journal of the Linnean Society*, viii. 159, it shows considerable affinity with *Styraceæ*, an order hitherto not detected in Tropical Africa, so far as I know. I have not seen fruit nor seed.—D. Oliver.

Fig. 1. Flower, the petals cut away from base of the short staminal tube. 2. Stamen (in fully developed flowers the filament is nearly or quite twice as long in proportion). 3. Pistil. 4. Vertical section of ovary. 5. Transverse ditto. *All enlarged.*

Plate 1406.

RADAMÆA MONTANA, *Benth.*

Scrophularineæ, Tribe Gerardieæ.

R. montana, *Benth. in DC. Prod.* x. 509; erecta, ramulis lignosis pubescentibus, foliis oblongo-lanceolatis, pedicellis apice bracteatis, corollæ tubo elongato cylindraceo.

Hab. Central Madagascar; open forests of the province of Imerina, *Bojer, Baron* 369, 611, 1008, 1154, *Parker*.

Frutex 4–10-pedalis, ramosissima, ramulis teretibus breviter brunneo-pubescentibus ad apicem crebre foliatis. *Folia* opposita, sessilia, vel breviter petiolata, integerrima, acuta, semipollicaria vel pollicaria, utrinque breviter hispida, siccitate nigrescentia. *Flores* ad axillas foliorum solitarii, pedicellis brevibus erectis apice bracteis 2 linearibus calyce subæquilongis præditi. *Calyx* hispidus, 2 lin. longus, tubo infundibulari, segmentis 5 lanceolatis. *Corolla* rubella, tubo pollicari, limbo expanso patulo 9–10 lin. diam., segmentis orbicularibus. *Stamina* in tubo inserta, distincte didynama. *Capsula* globosa, glabra, nitidula, magnitudine pisi.—J. G. Baker.

Fig. 1. Calyx. with pair of bracts. 2. Corolla-tube cut open to show the stamens. 3. Pistil. 4. Fruit subtended by calyx. *All more or less enlarged.*

Plate 1407.

THURNIA SPHÆROCEPHALA, *Hook. f.*

Plate 1408.

THURNIA JENMANI, *Hook. f.*

Juncaceæ, Tribe Eujunceæ.

Thurnia, *Hook. f., gen. nov. Perianthii* segmenta 6, distincta, sub ovario sine ordine inserta, membranacea, lineari-oblanceolata, acuta v. obtusa, inæquilonga, 1-nervia, persistentia. *Stamina* 6, sub ovario inserta, perianthio multo longiora, filamentis filiformibus compressis flexuosis; antheræ lineares, obtusæ, basifixæ, erectæ, loculis a latere dehiscentibus. *Ovarium* anguste fusiforme, 3-loculare, membranaceum, vertice coriaceo in stigmata 3 filiformia obtusa introrsum

papillosa attenuato; ovula basin versus loculorum solitaria v. plura, angulo interiori funiculis brevibus v. elongatis affixa, ascendentia, anatropa. *Capsula* elongato-oblanceolata, 3-gona, stigmatibus coronata, 3-locularis, loculicide 3-valvis, 3-sperma, septis valvisque infra apices coriaceos tenuissime membranaceis. *Semina* elongata, anguste fusiformia, obtuse 3-gona, testa crasse cartilagineo-fibrosa, superne in spinam gracilem pungentem retrorsum hispidulam oblique attenuata, inferne longe rigide producta, nucleo cavo, albumine farinaceo integumento coriaceo brunneo induto ab apice cavitatis pendulo elongato-ellipsoideo cæterum omnino libero; embryo axilis, fusiformis, extremitate inferiore albuminis immersus, radicula infera. — Herbæ *robustæ, glaberrimæ, scapigeræ, cyperoideæ.* Folia *elongata, coriacea, a basi vaginante enervi gradatim angustata,* 1-*nervia, marginibus lævibus v. spinuloso-serratis.* Scapus *erectus, robustus, obtuse* 3-*gonus.* Flores *in capitula solitaria globosa v. oblonga, longe foliaceo-bracteata, densissime conferta, receptaculo spongioso sessilia v. crassiuscule stipitata, stipite cum basi perianthii continuo.* Capitula florentia *antheris velata, fructifera apicibus coriaceis capsularum horrida.* Bracteæ *sub floribus singulis perianthii segmentis similes nisi minores.*

1. **T. sphærocephala,** *Hook. f.*; foliis bracteisque carinatis marginibus costaque spinuloso-serratis, capitulo globoso. Mnasium sphærocephalum, *Rudge, Pl. Guian. t.* 12.

Hab. British Guiana; in the Kaieteur Savannah of the Potaro river, *G. S. Jenman.* (Fruit, Sept.–Oct.)

Herba rigida, 2–3-pedalis. *Folia* ¾–1 poll. lata, rigida, dorso carinata, facie medio sulcata, præter costam enervia, in acumen rigidum trigonum scabrum longissime producta. *Scapus* semiteres v. obscure 3-gonus; bracteæ valde inæquales, longiores pedales. *Capitulum* 2–2½ poll. diametro, receptaculo globoso. *Perianthii* segmenta ½ poll. longa, obtusa. *Capsula* perianthio persistente duplo longior, ⅔ poll. longa, lineari-elongata, acute 3-gona, apice attenuato in stigmatibus 3 fisso. *Semina* ⅓ poll. longa.

2. **T. Jenmani,** *Hook. f.*; foliis bracteisque ecarinatis, marginibus lævibus, capitulo oblongo.

Hab. British Guiana; thickly choking the Potaro river above and below the Kaieteur falls, *E. F. im Thurn* and *G. S. Jenman.* (Fl. Sept.–Nov.)

Herba molliuscula, 2–3-pedalis. *Folia* ½–⅔ poll. lata, concava, ecostata et enervia, apicibus tenuissimus lævibus. *Scapus* teretiusculus; bracteæ angustiores quam in *T. sphærocephala* et læves. *Capitulum* 1½–2 poll. longum, 1 poll. diametro, apice rotundatum, floriferum antheris opertum. *Perianthii* segmenta ¼ poll. longa. *Filamenta* perianthio fere duplo longiore.

This very remarkable genus, with the texture of foliage of a coarse *Cyperus*, a good deal resembles *Sparganium* in its perianth, whilst in the structure of the flower, ovary, ovules, and seeds is unlike any known to me. In *T. Jenmani*, of which flowers only are seen by me, I find sometimes one ovule in each cell with a long funicle, at others 3 superposed and sessile. In *T. sphærocephala*, of which I have seen fruits only, I find one seed only, or one abortive ovule in each of the cells, which are separated by septa of extreme tenuity. The abortive ovules of this species present the curious appearance figured at t. 1407, f. 7. The mature contents of the cells, figs. 8 and 9, are most curious, and resemble nucules with an enclosed pendulous seed; repeated examination of them obliges me to regard them as seeds in which the albumen, clothed in a thin integument, hangs freely from the top of the cavity of the cartilaginous testa, which is produced into an apical and basal rigid barbed spine. Materials are, however, wanting for tracing the development of the ovary, fruit, and seeds, and thus explaining satistorily their structure.

The genus (and one of its species) is named in commemoration of the services rendered to Botany by Mr. E. F. im Thurn when Curator of the Museum at Georgetown, Demerara, and of Mr. G. S. Jenman, Superintendent of the Botanical Garden of that town, who travelled together and made very valuable collections in British Guiana.—J. D. H.

Plate 1407. *T. sphærocephala.*—Fig. 1. Capsule, perianth, and bract. 2. Bract. 3 and 4. Perianth segments. 5. Anther and top of filament. 6. Capsule. 7. Partially developed ovules attached to the axis of an abortive fruit. 8. Ripe seed. 9. The same cut vertically, showing the pendulous albumen in its integuments. 10. Albumen. 11. Section of end of ditto, showing the embryo. *All enlarged.*

Plate 1408. *T. Jenmani.*—Fig. 1. Flower. 2. Top of filament and anther. 3. Ovary. 4. Ovules on lower portion of ovary. 5. Ovule. *All enlarged.*

Plate 1409.

ERYTHROPHLŒUM FORDII, *Oliv.*

Leguminosæ, § Dimorphandreæ.

E. Fordii, *Oliver, sp. nov*; arbor, ramulis ferrugineo-puberulis glabratisve, pinnis trijugis 9–13-foliolatis, foliolis alternis ovato-ellipticis obtuse acuminatis glabris supra nitentibus breviter petiolulatis, racemis spiciformibus paniculatis ferrugineo-pubescentibus, petalis calycis lobis subduplo longioribus.

Hab. China, Kwangtung prov., on the Loting river, *C. Ford.*

Arbor 20–30-pedalis. *Folia* ampla, alterna, bipinnata, glabra, pinnis suboppositis 8–12 poll. longis, foliolis 2–3 poll. longis 1–1½

poll. latis, venulis supra prominentibus. *Racemi* 4–6 poll. longi. *Calyx* pilosulus, lobis oblongo-lanceolatis obtusis. *Petala* oblanceolata, intus et ad marginem tomentella, æstivatione anguste imbricata. *Stamina* glabra, petalis duplo longiora; antheræ ellipticæ, dorso prope basin affixæ. *Ovarium* breviter stipitatum, dense pilosum, 10–12-ovulatum.

One of Mr. Ford's most interesting additions to the Chinese flora. The genus was previously known to us only from Tropical Africa, Madagascar, North Australia and Queensland. *E. Fordii* nearly resembles *E. guineense*, from which, indeed, in the absence of legumes of the former, there is little besides the relatively longer petals and more numerous ovules technically to distinguish it. The bark of the African tree is said to be powerfully poisonous, and used by native tribes as an ordeal. It is, indeed, the *Mavea judicialis* of Bertoloni. The properties of the Chinese species may deserve inquiry.—D. Oliver.

Fig. 1. Flower, enlarged. 2. Anther, front and back. 3. Pistil. Ovary laid open (I find 10–12 ovules). *All enlarged.*

Plate 1410.

ARISTOLOCHIA SOYAUXIANA, *Oliv.*

Aristolochiaceæ.

A. Soyauxiana, *Oliver, sp. nov.*; glabrata v. ramulis ultimis foliisque subtus obsolete puberulis, foliis late ellipticis integris basi rotundatis apice abrupte et breviter acuminatis, subtus valde nervosis, perianthii leviter curvati utriculo gibboso inflato tubo cylindraceo ore ciliato, limbo explanato tripartito, segmentis basi cordato-lanceolatis elongato-attenuatis, lobo dorsali angustiore.

Hab. Gaboon river, *H. Soyaux.*

Folia 6–7 poll. longa, 4½ poll. lata, subcoriacea, trinervia, nervis venulisque subtus validis; petiolus 1½–2½ poll. longus. *Flores* fasciculati, bracteis brevibus squamiformibus; pedunculus cum ovario 2 poll. longus. *Perianthium* utriculo 1 poll. longo; tubo cylindraceo 1½–2 poll. longo, lobis limbi 5–7 poll. longis.

Unfortunately our specimens, dried and much pressed, kindly communicated by Dr. Ascherson on the part of Mr Soyaux, to whom we are indebted for so many interesting species from West Tropical Africa, do not permit me satisfactorily to complete this description by an analysis of the genitalia. A near ally of *A. Soyauxiana* is *A. triactina*, Hook. f., which differs in its trilobate cordate-based leaves and the much shorter segments of the perianth-limb, which barely exceed the tube in length.—D. Oliver.

Plate 1411.

SIBANGEA ARBORESCENS, *Oliv.*

Euphorbiaceæ, Tribe Phyllantheæ.

Sibangea, *Oliver, gen. nov. Flores* dioici, apetali. Fl. ♂: *Sepala* 3–5, subæquilonga, inæquilata, interiora angustiora, æstivatione imbricata. *Stamina* 3 circa discum centralem carnosum concavum margine undulatum affixa; filamenta libera, lineari-subulata, carnosula; antheræ rotundatæ, basi cordatæ, apice emarginatæ, dorsifixæ, biloculares longitudinaliter dehiscentes. *Ovarii* rudimentum 0. Fl. ♀: *Sepala* 5–6 inæqualia, sub-biseriata, ovata v. oblongo-ovata, carnosula. *Discus* planus, annulatus, hypogynus. *Ovarium* ovoideum, glabrum, 1-loculare, biovulatum; stylus brevis, crassus; stigma subpeltatum, leviter obliquum, centro depressum.—Arbor *parva*. Folia *alterna, petiolata, oblongo-elliptica, acuminata, undulata v. obsolete denticulata*. Flores *flavi, axillares, fasciculati, breviter pedicellati.*

S. arborescens, *Oliver.* (*Species unica.*)

Hab. Sibange Farm, Gaboon river, *H. Soyaux.*

Arbor parva, 10–12-pedalis, glabra. *Folia* submembranacea, basi plus minus rotundata v. cuneata, venis subtus prominulis, 4–8 poll. longa, 1½–3½ poll. lata; petiolus ¼ poll.

Another of Mr. Soyaux's important additions to the West African flora; allied to the genus *Hemicyclia* of the Indian and Australian region.—D. Oliver.

Fig. 1. Staminate flower. 2. Pistillate flower. 3. Same, the perianth removed. 4. Longitudinal section of ovary. *All enlarged.*

Plate 1412.

GYMNOCLADUS CHINENSIS, *Baill.*

Leguminosæ, Tribe Eucæsalpinieæ.

G. chinensis, Baillon in Bull. Soc. Linn. Paris, 1875, No. 5, pp. 33, 34.

Hab. China, prov. Kiukiang, *Mr. Maries*; prov. Fokien, *Mr. Bourne.*

Arbor ramulis ultimis hornotinis ferrugineo-puberulis mox glabratis. *Folia* bipinnata, alterna, 9–12 poll. longa, rhachide puberula; pinnis alternis suboppositisve multifoliolatis; foliolis alternis oblongis sericeo-

pilosis obtusis vel obtusiusculis breviter petiolulatis; *stipulæ* subnullæ. *Inflorescentia* racemosa, terminalis, brevis, pubescens; flores longiuscule pedicellati, bracteis minutis v. obsoletis. *Calyx* tubo infundibulari-cylindraceo longitudinaliter 10-nervoso, segmentis tubo brevioribus subulatis. *Petala* ovali-oblonga, obtusa, hirtella, calycis lobis longiora. *Stamina* alternatim breviora; filamenta lineari-subulata, parce pilosula; antheræ ovatæ, obtusæ, dorsifixæ. *Ovarium* glabrum, pauci- (circ. 4-) ovulatum; stylus crassiusculus, ovario æquilongus; stigma leviter obliquum, decurvatum, capitatum. *Legumen* subsessile, oblongum, crassum, apice breviter apiculatum, 2–4-spermum, valvis convexis lævibus. *Semina* subglobosa, leviter compressa, albuminosa, funiculo arcuato stipitata.

The leaves in our specimens are barely at maturity, the leaflets scarcely exceeding at time of flowering ½ in. in length. M. Baillon describes the base of the petiole as dilated, so as to form a conical sheath enclosing the axillary bud, as in the Plane tree. This *Gymnocladus* is the second arborescent genus, recently discovered in China, previously regarded as homotypic and peculiar to Eastern North America; the other being *Liriodendron*, collected in Kiu-Kiang by Dr. Shearer and Mr. Maries. The Chinese *Gymnocladus* differs from *G. canadensis* in the more numerous and much narrower leaflets which are not acuminate, and in the thick but slightly compressed legume, obtuse at each end, though with a short abrupt terminal apiculus. The legume is 3–4 in. long, 1¼–1⅓ in. in diameter; the pericarp hard and horny, but capable of swelling up greatly in water. M. Baillon speaks of it as the 'plante à la gousse à savon,' so called by Father Heudes, who supplied the flowers to him which enabled him to identify the genus; and Mr. F. S. A. Bourne, of H.M. Consular Service in China, says the fruit is 'used for washing purposes. Outer shell is steeped for two days in water, and the liquid resulting is used as soft soap, or it can be dried into hard soap.' The seeds are well figured by the late Mr. Hanbury in his 'Notes on Chinese Materia Medica' (reprint in his 'Science Papers,' p. 238, fig. 5). He there states: 'Of the origin and application of this "drug" I have no information.' He gives the name *Fe-tsaou-tow*, and suggests they belong to the genus *Dialium*. They are rightly identified by Dr. Bretschneider in his 'Notes on some Botanical Questions connected with the Export Trade of China,' p. 14, who says, 'the pods and seeds are brought from Szechuen and Kiangsi to Hankow and Kiukiang.' I have not tested the seeds, but probably the testa partakes of the collenchymatous character of the pericarp. I believe it is through an error that *Gymnocladus chinensis* is stated by M. Baillon (l. c.) as 'croissant magnifiquement à Shanghaï, où il devient un arbre aussi beau, à ce qu'il paraît, que le *G. dioica*' (*canadensis*).—D. Oliver.

Fig. 1. Detached flower, about twice natural size. 2. Calyx-tube laid open, showing petals inserted in mouth of tube and insertion of stamens. 3. Anther, back and front. 4. Pistil. 5. Legume. 6. Separate valve of same with attached seeds. *All enlarged.*

Plate 1413.

XEROCHLAMYS PILOSA, *Baker.*

Chlænaceæ.

X. pilosa, *Baker in Trimen Journ.* 1882, p. 45. (*Species unica.*)

Hab. Central Madagascar; bleak stony hills of Betsileo-land and Imerina, *Baron* 134, 947, 1873.

Arbuscula parva, ramosissima, ramulis gracilibus teretibus lignosis pilosis. *Folia* alterna, breviter petiolata, oblonga vel obovato-oblonga, integerrima, obtusa, subcoriacea, facie viridia calvata, dorso plus minus pilosa. *Flores* ad axillas foliorum superiorum subsessiles, solitarii. *Involucrum* campanulatum, subcoriaceum, dense pilosum, uniflorum, dentibus 5–10 deltoideis vel lanceolatis. *Sepala* 3, obovata, pilosa involucro subæquilonga. *Petala* 5, rubella, obovato-spathulata, glabra, calyce duplo longiora. *Stamina* 20–30, intra urceolum campanulatum inserta, petalis æquilonga, filamentis liberis applanatis ad urceolum haud adnatis, antheris parvis subglobosis. *Ovarium* sessile, dense pilosum, triloculare, ovulis in loculo paucis; stylus cylindricus, stigmate capitato obscure trilobato. *Capsula* globosa, loculicide trivalvis, rigida, dense pilosa, magnitudine pisi, seminibus obovoideis turgidis nigris rugosis.—J. G. Baker.

Fig. 1. Involucre. 2. A sepal. 3. A petal. 4. Fertile stamens, and staminodial urceolus. 5. An anther. 6. Pistil. 7. Immature capsule and involucre. *All enlarged.*

Plate 1414.

HENONIA SCOPARIA, *Moq.*

Amaranthaceæ, Tribe Celosieæ.

H. scoparia, *Moq. in DC. Prod.* xii. ii. 237; fruticulus erectus scoparius glaberrimus, ramis ramulisque gracilibus, foliis linearibus obtusis basi angustatis, floribus parvis spicatis.

Hab. Madagascar, *Lyall*, *Bojer*, Baron, 914, 916.

Fruticulus ut videtur 2–3-pedalis, floribundus, basi lignosus, caulibus ramisque erectis teretibus striatis, junioribus foliisque novellis puberulis, ultimis elongatis gracilibus strictis aphyllis. *Folia* $\frac{1}{2}$–1 poll. longa, $\frac{1}{6}$ poll. lata, sessilia, enervia, costa tenui, integerrima, viridia. *Flores* in

spiculas breves strictas secus ramulos aphyllos alternas laxe dispositi, rhachi gracillima, $\frac{1}{12}$–$\frac{1}{8}$ poll. longi, flavescentes. *Bracteæ* et *bracteolæ* minutæ, ovatæ, obtusæ, scariosæ, persistentes. *Perianthii* scariosi segmenta oblonga v. rotundata, obtusa, concava. *Stamina* 5, inclusa, filamentis subulatis ima basi connatis; antheræ minutæ, apiculatæ. *Ovarium* ovoideum ellipsoideum v. oblongum, stigmatibus 3 revolutis; ovula numerosa, funiculis elongatis. *Utriculus* oblongus, stigmatibus coronatus, exsertus, scarioso-coriaceus, demum longitudinaliter ruptus, 1–∞-spermus. *Semina* oblique lenticularia, testa atra nitida lævi; embryo semi-annularis, albumen farinaceum cingens, radicula infera. —J. D. H.

Fig. 1, 2. Flowers. 3. Utricle laid open. 4. Stamens. 5. Perianth and utricle. 6. Seed. 7. Embryo. *All enlarged.*

Plate 1415.

EPHIPPIANDRA MYRTOIDEA, *Dcne.*

Monimiaceæ.

E. myrtoidea, *Dcne. in Ann. Sc. Nat. ser.* iv. vol. ix. p. 278, t. 7. (*Species unica.*)

Hab. Central Madagascar, in forests of the province of Imerina, *Goudot, Dr. Parker, Baron* 1263, 1355.

Arbuscula ramosissima, monoica, 10–12-pedalis, facie Myrti, ramulis lignosis teretibus gracilibus obscure pilosis. *Folia* opposita, breviter petiolata, ovata, acuta, integerrima, rigidula, glabra, venis primariis paucis obscuris intra marginem anastomosantibus. *Flores masculi* ad axillas foliorum superiorum 1–3-ni, breviter pedicellati, perianthio primum globoso, segmentis 4 parvis deltoideis imbricatis, flore expanso ad basin 4-partito, antheris ad segmentorum facies sessilibus. *Flores fœminei* solitarii, terminales, receptaculo patellæformi, carpellis 5–15 sessilibus. *Fructus* receptaculo convexo carnoso rubro, circa carpellorum basin in cupulas campanulatas truncatas producto. *Carpella* ovoidea, nigra, glabra, magnitudine pisi, seminibus solitariis.

The additional material gathered recently by our English collectors supplies the fruit, and shows that the plant is not dioicous as Decaisne supposed, but monoicous.—J. G. Baker.

Fig. 1, 2. Male flowers in bud. 3. Expanded male flower. 4. A fruit-carpel. 5. A vertical section of the seed. 6. An embryo.

Plate 1416.

INDIGOFERA KIRKII, *Oliv.*

Leguminosæ, Tribe Galegeæ.

I. Kirkii, *Oliver, sp. nov.*; frutex diffusus, hirsutus, ramulis dense foliosis, foliis simplicibus coriaceis ovali-oblongis oblanceolatisve apiculatis acuminatisve hirsutis breviter petiolatis costa nervis primariisque subtus prominentibus, stipulis persistentibus rigidis lanceolato-subulatis nervosis, inflorescentia breviter racemosa axillari, floribus brevissime pedicellatis v. subsessilibus, calyce hirsuto profunde 5-fido lobis lanceolatis corolla brevioribus, leguminibus brevibus rectis teretibus ellipsoideis v. cylindraceis apiculatis hirsutis 3–2- v. 1-spermis.

Hab. Bagamoya, Zanzibar, *Sir John Kirk.*

Folia ½–1 poll. longa. *Racemi* foliis subæquilongi v. longiores, hirsuti; bracteis lineari-subulatis deciduis. *Calyx* lobis subæqualibus intus glabris. *Corolla* 2–3 lin. longa. *Vexillum* obovato-rotundatum, dorso hirsutum. *Carina* obtusa. *Legumen* 2–4 lin. longum.

This curious *Indigofera* is but one of the many undescribed *Papilionaceæ* received from Tropical Africa since the publication of the second volume of the 'Flora.' It is allied to *I. erythrogramma*, Welw., of Angola, but differs in its shrubby habit, and, conspicuously, in the legume.—D. Oliver.

Fig. 1. Flower. 2. Vexillum. 3 and 4. Alæ and carina. 5. Anthers. 6. Pistil. 7. Legume. 8. Same, open. *All enlarged.*

Plate 1417.

LOROPETALUM SUBCORDATUM, *Oliv.*

Hamamelideæ.

L. subcordatum, *Oliv.*; frutex 3–4-pedalis, foliis ellipticis v. ovato-ellipticis breviter acuminatis obsolete glanduloso-denticulatis basi rotundatis subcordatisve, floribus pentameris capitatis, capitulis breviter pedunculatis axillaribus, calycis lobis ovato-ellipticis extus tomentellis, petalis elongatis anguste linearibus. *Tetrathyrium subcordatum*, Benth. Fl. Hongkong, 133.

Hab. Hongkong, on the Black Mountain: 'a bush once seen,' *Wilford;* and 'several scraggy bushes, about 4 feet high, growing in the rocky bed of a dry (except in rains) watercourse,' on what is supposed to be the 'Black Mountain' referred to above, *Chas. Ford.*

Folia 2½–4(–5) poll. longa, coriacea, glabra, subtus reticulata; petiolus

$\frac{1}{3}$–$\frac{2}{3}$ poll. longus. *Capitula* 15–20-flora (petalis exclusis), 4–5 lin. diam.; pedunculi 2–3 lin. longi. *Petala* 6–8 lin. longa, apice bidentata. *Stamina* 5, perigyna, filamentis antheræ æquilongis; antheræ loculis dehiscentia bivalvatis connectivo apice producto apiculatæ: staminodia (v. disci lobi) 5, crassiuscula, retusa v. emarginata, staminibus antheriferis alternantia. *Capsula* lignosa, semisupera, dehiscentia bivalvis, valvis breviter bilobis, endocarpio intus nigrescente. *Semina* solitaria, albuminosa, embryone albuminis longitudine, cotyledonibus plano-compressis radicula sublongioribus.

The re-discovery, by Mr. Charles Ford, Superintendent of the Botanic Garden, Hong Kong, of this rare Hamamelid, of which he has forwarded an excellent specimen in flower, as well as detached fruit and seeds, enables us to complete the description given in 'Flora Honkongensis,' from the only specimens then available. From these the petals had fallen, so that the short staminodia (or disk-lobes) were regarded as representing the corolline whorl. In the capitate inflorescence this plant is similar to *Maingaya* of Malacca, in which, however, the calyx-limb is wanting, and conspicuous staminodia are present.—D. Oliver.

Fig. 1. Flower. 2. Stellate hair from the calyx. 3. Flower, the calyx-lobes and petals removed. 4. Anther. 5. Apex of ovary and incurved styles. 6. Vertical section of ovary. 7. Fruit after dehiscence. 8. Seed. *All enlarged.*

Plate 1418.

TRIASPIS NELSONI, *Oliv.*

Malpighiaceæ. Tribe Hireæ.

T. Nelsoni, *Oliver, sp. nov.*; ramulis teretibus cinereo-tomentellis, foliis parvis ovatis obtusis mucronatis tomentellis subsessilibus, umbellis pedunculatis axillaribus, pedunculis folio sæpe brevioribus, pedicellis gracilibus pedunculo æquilongis, samaris orbiculatis sæpe reduplicatis, ala radiatim nervosa medio dorso leviter longitudinaliter cristata.

Hab. Transvaal, Prætoria, *W. Nelson.*

Folia (superiora) $\frac{3}{4}$–$1\frac{1}{4}$ poll. longa, subcoriacea, subtus reticulata. *Flores* $\frac{2}{3}$–$\frac{3}{4}$ poll. diam. *Calyx* profunde 5-fidus, lobis ovatis obtusis parce pilosulis. *Petala* longiuscule unguiculata, lamina cordato-rotundata fimbriata. *Samaræ* 1–3, margine undulatæ, $1\frac{1}{4}$–$1\frac{1}{2}$ poll. diam.

The other Cape species, *Triaspis hypericoides*, Burch., differs in its linear or linear-lanceolate leaves, which are distinctly petiolate. It is, moreover, quite glabrous.—D. Oliver.

Fig. 1. Flower, the petals removed. 2. Pistil. 3. Insertion of seed. *All enlarged.*

Plate 1419.

RIEDELIA CURVIFLORA, *Oliv.*

Scitamineæ, Tribe Zingibereæ.

Riedelia, *Oliver, gen. nov. Flores* falcato-recurvi, racemosi. *Calyx* tubulosus, spathaceo-fissus, apice attenuatus, minute tridentatus, deciduus. *Corolla* tubo brevissimo, lobis lineari-lanceolatis calycem subæquantibus postico paullo latiore. *Staminodia* linearia, lateralia inæqualia uno interdum minimo v. obsoleto altero basi plus minus labello adnato: labellum angustum, bifidum, corolla brevius. *Anthera* linearis inappendiculata, loculis distinctis contiguis. *Ovarium* oblongo-clavatum, triloculare, loculis ∞ -ovulatis; stylus filiformis, stigmate parum obliquo dilatato ciliato; stylodia carnosa, crassa, obtusa, basin styli amplectentia. —Caulis *erectus, foliatus, glaber.* Flores *in racemo simplici terminali recurvo numerosi; bracteæ minutæ.* Perianthium *cum staminodiis post anthesin caducissimum.*

R. curviflora, *Oliver.* (*Species unica.*)

Hab. Buru, Indian Archipelago, *Mr. Riedel* (communicated through Dr. Meyer).

Folia superiora ovali-oblonga, acuminata, sessilia, margine undulata, glabra, longitudinaliter venosa, vaginis elongatis striatis glabris. *Racemus* terminalis, simplex, pedunculatus, recurvus, 6–7 poll. longus; pedunculus 4–5 poll. longus. *Pedicelli* rigidi, 3–4 lin. longi, persistentes. *Ovarium* clavatum, $\frac{1}{4}$–$\frac{1}{3}$ poll. longum. *Perianthium* $1\frac{1}{4}$–$1\frac{1}{2}$ poll. longum. *Fructus* . . .

Allied to *Alpinia*. But a single specimen was received, in the description of which Mr. Bentham allowed me the use of his notes prepared for the Addenda to the current volume of 'Genera Plantarum.'—D. Oliver.

Fig. 1. Perianth laid open. 2. Anther. 3. Stylodia and base of style. 4. Stigma. 5. Ovary, after fall of perianth. 6. Transverse section of same. *All enlarged.*

Plate 1420.

PETRÆOVITEX RIEDELII, *Oliv.*

Verbenaceæ, Tribe Viticeæ.

Petræovitex, *Oliver, gen. nov. Calyx* brevissimus, campanulatus, 5-dentatus, post anthesin auctus, tubo multinervoso, lobis elongatis oblanceolatis obtusis rigidulis costatis reticulatis. *Corolla* obliqua, postice fissa, limbo explanato 5-lobo, lobis obtusis apice incurvis.

Stamina 4, subæqualia, lobis alternantia iisdem longiora; antheræ parvæ, subdidymæ. *Ovarium* obovoideum, imperfecte biloculare, marginibus ovuliferis carpellorum per paria intrusis. *Stylus* gracilis; stigma bifidum. Fructus (immaturus) parvus turbinatus.—Arbor *vel* frutex, *ramulis ferrugineo-puberulis glabratis.* Folia *opposita, composita, petiolata, foliolis biternatis petiolulatis ovato-ellipticis acumine breviter apiculato mucronulato.* Inflorescentia *terminalis, paniculata, ampla, ramis puberulis patentibus, bracteis subulatis.* Flores *minuti, brevissime pedicellati.*

P. Riedelii, *Oliver.* (*Species unica.*)

Hab. Buru Island, Indian Archipelago, *Mr. Riedel* (communicated through favour of Dr. Meyer).

Folia 9-foliolata; petiolus communis 2–3 poll. longus; pet. secundarii $\frac{1}{2}$–$1\frac{1}{2}$ poll. longi; foliola intermedia basi obtusa v. subcordata, $1\frac{3}{4}$–$2\frac{1}{2}$ poll. longa; petiolulus $\frac{1}{4}$–$\frac{2}{3}$ poll.; foliolal ateralia paullo minora, breviter petiolulata. *Panicula* subpedalis, pedunculata. *Flores* 2–3 lin. lati. *Calyx* tomentosus, intus glaber; fructiferus lobis $\frac{1}{2}$ poll. longis.

With the general aspect of a very small-flowered *Vitex*, we have an accrescent calyx resembling that of *Petræa*. The corolla-tube is very short, and deeply divided behind. Two remarkable new genera (this and the preceding), in a packet of about forty species, indicates the existence of a comparatively unknown flora in Buru. Anything Mr. Riedel may be able further to send us from thence will be examined with great interest.—D. Oliver.

Fig. 1. Flower, greatly enlarged. 2. Pistil. 3. Fruiting calyx. 4. Fruit. 5. Transverse section of ovary (or immature fruit). *All enlarged.*

Plate 1421.

TOXANTHERA NATALENSIS.

Cucurbitaceæ, Tribe Cucumerineæ.

Toxanthera, *Hook. f., nov. gen. Flores* monoici? Fl. ♂ racemosi. *Calycis* tubus breviter campanulatus, lobis 5 triangulari-ovatis. *Corolla* rotata, segmentis ovatis. *Stamina* 3, filamentis brevissimis medio connectivo (ventre loculi) affixis; antheræ duæ 2-loculares loculis omnino discretis, tertia 1-locularis, loculis omnibus elongatis incurvo-arcuatis; pollen sphericum, læve. *Ovarii* rudimentum 0. Fl. ♀ solitarii. *Calyx* maris, lobis subulatis. *Corolla* maris. *Staminum* rudimenta filiformia, curva. *Ovarium* gracile, superne in rostrum attenuatum, 2-placentiferum; stylus columnaris, disco 0; stigmata 2, magna, flabelliformia, deflexa, papillosa; ovula plurima, horizontalia. *Fructus*

fusiformis, carnosus, indehiscens, polyspermus. *Semina* globosa, testa pallida crustacea levi; cotyledones hemisphærici.—Herba *gracilis, alte scandens, parce scaberula v. fere glabra.* Folia *petiolata, membranaceo-orbicularia, haud profunde 5–7-loba, lobis rotundatis, remote acuminato-denticulatis.* Cirrhi 2-fidi. Flores *inter maiores, pubescentes, flavi, ♂ minute bracteolati.* Fructus 2-*pollicaris, levis.*

T. natalensis, Hook. f.

Hab. Natal, *W. T. Gerrard* (n. 1192. *excl. fruct.*): Inanda and Umhloti bush, *J. M. Wood* (n. 813).

Rami elongati, graciles, superiores ramulique foliis brevibus subscaberulis pubescentes. *Folia* 4–6 poll. lata, membranacea, basi profunde cordato-2-loba, sinu lata, lobis rotundatis incurvis, petiolo 2–3-pollicari pubescente. Racemi ♂ longe pedunculati, multiflori, pubescentes, pedicellis ¼–½ poll. longis filiformibus. *Flores* ⅓ poll. diametro. Fl. ♀: *Perianthium* masculo subsimile. *Ovarium* pollicare, pubescens.

The affinity of this genus appears to be with *Pleiosperma*, Scott-Elliot, which is also South African, and from which it differs in the structure of the anthers, in the stigmas, in the 2-fid tendrils and form of the fruit. Though I have seen several sheets of the plant, none show whether it is monœcious or dioecious. The separation of the cells of the two-celled anthers is complete, bisecting the connective and very short filaments, each cell resembling a free 1-celled anther.—J. D. Hooker.

Fig. 1. Bud of ♂ flower. 2. ♂ Flower expanded. 3. Stamens. 4. Bud of ♀ flower. 5. ♀ Perianth laid open. 6. Style and stigmas. All enlarged.

Plate 1422.

DITTOCERAS ANDERSONI.

Asclepiadeæ, Tribe Marsdenieæ.

Dittoceras, *Hook. f., gen. nov.* *Calyx* 5-partitus, segmentis ovato-oblongis intus basi glandulosis. *Corolla* rotata, tubo explanato, limbo 5-lobo, lobis triangularibus acutis valvatis. *Corona corollina* 0. *Columna staminea* parva, antheris minutis; coronæ staminæ processubus stellatim patentibus oblongis obtusis depressis basi obscure tuberculatis; antherarum apices breves, incurvæ; pollinia in loculis solitaria, ellipsoidea, corpusculo parvo sessilia. *Stigma* inclusum, pentagonum. *Pollinaria* crassi, cylindracei, obtusi, recurvi. *Semina* magna, elongata, obovato-oblonga, crassiuscula, coma brevi.—Frutex *volubilis, scandens, pubescens v. subtomentosus, ramis gracilibus.* Folia *longe petiolata, ovata, acuta v. acuminata, membranacea.* Flores *in fasciculos axillares dispositi, longe pedicellati, majusculi.*

D. Andersoni, *Hook. f.* (*Species unica*).

HAB. Sikkim Himalaya, in the tropical region alt. 2–4000 feet, *J. D. H.*, *T. Anderson*.

Caules elongati, crassitie pennæ anatinæ v. anserinæ, interdum subvillosi. *Folia* 4–5 poll. longa, 2½–3½ poll. lata, basi rotundata, subtus præcipue pubescentia, pilis siccitate rufescentibus, nervis utrinque 4–6 tenuibus arcuatis; petiolo 1–2½-pollicari. *Flores* in fasciculis 6–8, pedicellis 1–1½-pollicaribus gracilibus hirsutis. *Sepala* parva, dorso hirsuta. *Corolla* 1½ poll. lata, extus hirsuta, intus glaberrima, lobis tubo explanato subæquilongis, tota luride violaceo-purpurea. *Columna staminea* unacum processubus parva. *Folliculi* 5 poll. longi, ½–¾ poll. diametro, arcuatim recurvi, crasse coriacei, endocarpio crustaceo nitido. *Semina* pollicaria, ⅓ poll. lata, inferne alata; coma densa, semine æquilonga v. brevior, pilis irregularibus patenti-recurvis.

The affinity of this genus is with *Heterostemma*, from which it differs in the singular follicles and the very large seeds. It was discovered by myself in the tropical forests of the outer ranges of the Sikkim Himalaya in July 1848, and has since been collected by the late Dr. Anderson (then Superintendent of the Royal Botanic Garden of Calcutta) and by others.—J. D. H.

Fig. 1. Calyx. 2. Sepal seen from inside. 3. Staminal column and coronal processes. 4. Top of staminal column. 5, 6. Pollinia. 7. Follicle. *All but fig. 7 enlarged.*

PLATE 1423.

LYGISMA ANGUSTIFOLIA, *Hook. f.*

ASCLEPIADEÆ, Tribe MARSDENIEÆ.

Lygisma, *Hook. f.*, *gen. nov.* *Calyx* 5-partitus, segmentis oblongis obtusis intus eglandulosis. *Corolla* rotata, tubo intus pubescente; lobi lineares, obtusi, contorti, dextrorsum obtegentes et in alabastro abrupte inflexi. *Corona corollina* 0. *Columna staminea* minuta, cupularis, 5-loba, lobis antheris respondentibus; corona staminea e dentibus minimis obtusis dorso antherarum appressis; antheræ obtusæ, apicibus membranaceis brevissimis; pollinia in quoque loculo solitaria, cylindraceo-clavata, corpusculo elongato subsessilia, erecta. *Stigma* inclusum. *Fructus* . . .—Frutex *volubilis, puberula, gracilis, diffuse ramosa, foliosa.* Folia *opposita, breviter petiolata, lineari-lanceolata, acuminata.* Flores *parvi, cymis numerosis axillaribus paniculæformibus v. corymbiformibus laxe dispositi, breviter gracile pedicellati.*

L. angustifolia, *Hook. f.* (*Species unica*).—Marsdenia angustifolia, *Wight, Contrib.* 40; *Wall. Cat.* 8172; *Dene. in DC. Prod.* viii. 614.

Hab. Burma; hills near Prome, *Wallich*.

Ramuli gracillimi, plus minus bifariam puberuli. *Folia* 1–2 poll. longa, $\frac{1}{4}$–$\frac{1}{3}$ poll. lata, utrinque sed subtus precipue puberula, demum glabra, costa obscura, nervis paucis valde obliquis, basi 3-nervias. *Pedunculi* $\frac{1}{3}$–$\frac{1}{2}$ poll. longi, capillares, ad ramos ramulosque 2-bracteati, pedicellis $\frac{1}{8}$–$\frac{1}{6}$ poll. longis. *Alabastra* truncata. *Sepala* pubescentia. *Corolla* $\frac{1}{4}$ poll. diametro; tubo calyce vix longiore, lobis glaberrimis.

A very singular genus, allied to *Marsdenia*, but differing from it and from every other Indian ones of the Order known to me in the doubling down inwards of the corolla-lobes in bud, as in *Ichnocarpus* and other genera of *Apocyneæ*. The column is excessively minute.—J. D. H.

Fig. 1. Flower. 2. Sepal. 3. Corolla laid open. 4. Staminal column. 5. Pollinia. *All greatly enlarged.*

Plate 1424.

IPOMÆA RIEDELIANA, *Oliv.*

Convolvulaceæ, Tribe Convolvuleæ.

I. **Riedeliana**, *Oliver, sp. nov.*; glaberrima, ramulis teretibus lævibus, foliis ovato-cordiformibus acuminatis margine leviter undulatis, petiolis lamina brevioribus, cymis paucifloris axillaribus pedunculatis, pedicellis sub flore dilatatis, sepalis subæqualibus coriaceis rotundatis concavis mucronatis, corolla campanulata limbo haud explanato breviter 5-lobulato lobis dorso et infra dense pilosis, ovario glabro disco annulari cincto biloculare, loculis 2–5-ovulatis.

Hab. Island of Buru, Indian Archipelago, *Mr. Riedel* (communicated through Dr. Meyer, of Dresden).

Folia 3–4 poll. longa, 2–4 poll. lata, membranacea, glabra; petiolus 1–1½ poll. longus. *Flores* 1¼–1½ poll. diam.; pedicelli ¾–1¼ poll. longi, sursum valde incrassati. *Sepala* ¾ poll. longi. *Corolla* calyce duplo v. subtriplo longior. *Stylus* elongatus, gracilis; stigma capitatum, bilobulatum. *Fructus* . . .

A singular plant, which I cannot identify, presenting the exceptional character of more than 2 ovules in at least one of the two cells of the ovary. I have not seen ripe seeds.—D. Oliver.

Fig. 1. Base of corolla, laid open, with the stamens. 2. Pistil and disk. 3. Transverse section of ovary. (The ovules are basal and ascending: I am not sure that 4 occur in *each* cell. I have, however, found 5 in one, an aberration unusual in *Ipomæa*.) *All enlarged.*

Plate 1425.

TREUTLERA INSIGNIS, *Hook. f.*

Asclepiadeæ, Tribe Marsdenieæ.

Treutlera, *Hook. f., gen. nov.* *Calyx* 5-partitus, intus basi minute glandulosus, segmentis ovatis subacutis. *Corolla* ampla, rotata, tubo explanato, limbo 5-lobo, lobis triangulari-ovatis obtusis leviter contortis dextrorsum obtegentibus. *Corona corollina* 0. *Columna staminea* oblonga, erecta; coronæ processubus oblongis obtusis dorso antherarum adnatis apicibus infra appendicem antheræ brevis rotundatæ membranaceæ liberis obtusis; pollinia in loculis antherarum solitaria, cylindracea, caudiculis brevibus corpusculo parvo affixa, erecta. *Stigma* hemisphæricum, apice 2-dentatum. *Fructus* . . .—Frutex *volubilis, alte scandens, robustus, ramulis novellis foliisque junioribus superne sparse puberulis.* Folia *oblonga v. elliptica, acuminata, coriacea, penninervia.* Flores *majusculi, pallide purpurei, umbellis axillaribus pedunculatis laxifloris dispositi, pedicellis basi bracteatis.*

T. insignis, *Hook. f.* (*Species unica.*)

Hab. Sikkim Himalaya, in the temperate region, alt. 6–9000 feet, *J. D. H., Dr. Treutler*, &c.

Rami teretes, crassitie pennæ anserinæ. *Folia* 3–6 poll. longa, 1½–3 lata, coriacea, sæpissime oblonga v. elliptica, acuminata, rarius oblanceolata v. oblongo-rotundata et cuspidata, supra (precipue secus costam nervosque) puberula, subtus glaberrima, basi acuta v. rotundata, nervis utrinque 5–8 arcuatis v. fere horizontalibus; petiolo 1½–1¼ poll. longo, glabro v. pubescente. *Pedunculi* 1½–2 poll. longi; pedicelli subæquilongi, basi bracteati, bracteis parvis, ovatis obtusis. *Flores* odori. *Sepala* ⅙ poll. longa, glabra v. pubescentia. *Corolla* coriaceo-carnosa, 1½ poll. lata, purpurea, intus flavescens, lobis tubo æquilongis glabris v. obscure ciliatis. *Columna staminea* ¼ poll. longa, virescens.

A very handsome and distinct genus of *Asclepiadeæ* remarkable for the great elevation at which it grows. It was discovered in damp oak and laurel forests on Tonglo and Sinchul, mountains of Sikkim, by myself in September 1848. It is allied to *Marsdenia*, from which it differs in the large rotate corolla, like that of a *Hoya* or *Heterostemma*. I have named it in compliment to W. J. Treutler, M.D., F.L.S., a native of Sikkim, who presented to Kew a valuable collection of the plants of that country, amongst which were fine specimens of this species.

Fig. 1. Sepal, seen from within. 2. Staminal column. 3. Back of anther, with coronal process. 4. Side view of the same. 5. Stigma and pollinia. 6. Pollinia. *All enlarged.*

ICONES PLANTARUM.

Plate 1426.

PENTABOTHRA NANA, *Hook. f.*

Asclepiadeæ, Tribe Cynancheæ.

Pentabothra, *Hook. f., gen. nov.* Sepala oblonga, intus minute glandulosa. *Corolla* campanulata, profunde 5-loba; lobis ovato-oblongis dextrorsum obtegentibus. *Columna* crassa, ovoidea; corona exterior e sacculis ad basin columnæ antheris alternantibus; interior e processubus carnosis a latere compressis dorso antherarum adnatis, apicibus liberis obtusis. *Antheræ* magnæ, corneæ, apicibus magnis oblongis membranaceis; pollinia in loculis solitaria, elongata, compressa, falcata, pendula, cerea, pedicellis elongatis. *Stigma* depresso-conicum, 5-gonum, inclusum. — Herba *v.* suffrutex, *parvula, erecta, robusta, glaberrima.* Folia *opposita, loriformia, breviter petiolata, basi rotundata v. cordata.* Flores *in cymas axillares umbelliformes breviter pedunculatas dispositi.*

P. nana, *Hook. f. Fl. Brit. Ind.* iv. 19 (*Species unica*). Cynanchum nanum, *Ham. in Wall. Cat.* 8230; *Wight Contrib.* 59.

Hab. Northern Camrup, at Sannyashikate, on grassy hills, *Hamilton* (April 7, 1809).

Herba v. suffrutex e specimine unico tantum viso 6-pollicaris, caule rigido basi nudo flexuoso, superne folioso. *Folia* 4-pollicaria, $\frac{1}{3}$–$\frac{1}{2}$ poll. lata, patentia, subacuta, coriacea, costa crassa, nervis tenuibus patentibus, petiolo $\frac{1}{6}$ poll. longo. *Flores* $\frac{1}{3}$ poll. diam.

This remarkable plant is one of the very few contained in the Wallichian Herbarium, which has never been collected since this was

formed, and there is only one specimen of it, from which flowers were sent to Dr. Wight, and are preserved in his Herbarium (now at Kew). I have not been able to ascertain the position of Sannyashikate, which is probably in Assam.—J. D. Hooker.

Fig. 1. Flower. 2. Interior surface of sepal. 3. Column. 4. Dorsal view of anther and processes. 5. Ventral view of anther. 6. Pistil. 7. Pollinia. *All enlarged.*

Plate 1427.

ADELOSTEMMA GRACILLIMUM, *Hook. f.*

Asclepiadeæ, Tribe Cynancheæ.

Adelostemma, *Hook. f., gen. nov. Sepala* lanceolata. *Corolla* campanulata, breviter 5-loba. *Columna* breviter stipitata, conico-5-gona; corona 0. *Antherarum* apices elongati, oblongi, membranacei; pollinia in quovis loculo solitaria, ovoidea, pedicellata, cerea, corpusculis oblongis. *Stigma* clavatum obtusum, exsertum. — Caules *graciles, volubiles, glaberrimi.* Folia *opposita, longa, petiolata, cordata.* Flores *in cymas corymbiformes axillares pedunculatas dispositi, parvi.*

A. gracillimum, *Hook. f.* (*species unica*). Cynanchum gracillimum, *Wall. in Wight Contrib.* 57, and *Cat.* 8227.

Hab. Burma; at Segain, *Wallich.*

Folia 1½–2½ poll. longa, 1–1½ lata, membranacea, acuminata, sinu basali profundo lobis rotundatis incurvis, nervis tenuibus, petiolo gracillimo 1–1½ poll. longo. *Cymæ* puberulæ, pedunculis petiolis brevioribus, pedicellis $\frac{1}{10}$–$\frac{1}{4}$-pollicaribus. *Sepala* corolla dimidio breviora. *Corolla* $\frac{1}{6}$ poll. longa, pallida, glaberrima.

The campanulate corolla and total absence of a corona remove this plant from Cynanchum. I find no trace of the 5-fid tubular corona described by Wight as existing at the base of the stipes of the column. —J. D. Hooker.

Fig. 1. Flower. 2. Column. 3. Back, and 4. Front view of anther. 5. Pistil and pollinia. 6. Pollinia. *All enlarged.*

PLATE 1428.

ZATARIA MULTIFLORA, *Benth.*

LABIATÆ, Tribe SATUREINEÆ.

Z. multiflora, *Boissier, Diag.* i. No. 5, p. 18. Fruticulus ramosissimus ramulis puberulis hirtisve, foliis late ovatis v. ovato-rotundatis late acutatis obtusisve glabratis puberulisve punctatis rigidulis petiolatis, cymulis globosis ovoideisve sessilibus v. inferioribus breviter pedunculatis spicatis, bracteolis ellipticis calycem subæquantibus, calyce dentibus deltoideis hirtis corollæ tubum æquante.

HAB. Persia australis, *Aucher.* 5192; Inter Jesd et Ispahan, *Bunge*; Beloochistan, *Stocks*; Afghanistan (var. *bracteata*, Boiss.), *Griffith.*

Folia ¼–½ poll. longa. *Flores* ⅛ poll. longi. *Nuculæ* parvæ ovoideæ lævES.—D. OLIVER.

Fig. 1. Flower. 2. Corolla laid open. 3. Stamens. 4. Ovary and style. 5. Flower at later stage. *All enlarged.*

PLATE 1429.

FLAGELLARIA GIGANTEA, *Hook. f.*

FLAGELLARIEÆ.

F. gigantea, *Hook. f.* (*sp. nov.*); alte scandens, foliis 2–3 pedalibus elongato-lanceolatis in cirrum planum cartilagineum attenuatis basi rotundatis v. auriculato-cordatis ibidemque crasse cartilagineis, floribus subglobosis, drupa 1–3-pyrena et 2–3-loba, v. 1-sperma uno latere rostrata, pyrenis osseis oblongo-sigmoideis, transverse rugosis.

HAB. Fiji Islands (*U.S. Expl. Exped.*); Vanua Levu, *Mac Gillivray* and *Milne*; Upolo, Samoa Islands, *Whitmee.*

Frutex. *Folia* 2–4 poll. lata, tenuiter coriacea, creberrime striata, costa subtus valida basi latiuscula, vagina elongata. *Paniculæ* amplæ, fastigiatim ramosæ, ramis ramulisque compressis et obtuse angulatis. *Flores* $\frac{1}{12}$ poll. diametro, sessiles v. brevissime pedicellati; bracteæ minutæ, caducæ. *Perianthii* segmenta exteriora ovata, obtusa,

interiora duplo majora subacuta. *Antheræ* oblongæ. *Stylus* trifidus. *Drupæ* ½ poll. longæ, edules, perianthio persistente immutato stipatæ, sæpius 1-spermæ vertice truncatæ uno latere rostratæ; non raro symmetricæ 2–3-lobatæ et -pyrenæ. *Pyrenæ* ⅓ poll. longæ, endocarpio crasso durissimo profunde sulcato, testa membranacea, albumine farinaceo.

Of this very remarkable species the Fiji specimens are in young flower only, and the Samoan Island ones are in fruit only, and without foliage; I have, however, no reason to doubt their belonging to one species, as was concluded by Mr. Bentham and myself when the genus was worked up for the 'Genera Plantarum.'—J. D. Hooker.

Fig. 1. Flower. 2. Very young stamens. 3. A stamen. 4. Style. 5. Drupe. 6. Seed. *All enlarged.*

Plate 1430.

RENEALMIA AFRICANA, *Benth.*

Scitamineæ, Tribe Zingibereæ.

R. africana, *Benth. MSS., (sp. nov.)*; glaberrima, foliis pedalibus elliptico-lanceolatis oblanceolatisve acuminatis basi in petiolum supra vaginam angustatis nervis numerosis, racemis e rhizomate robusto annulato infra folia ortis laxe vaginatis simplicibus v. subramosis, vaginis cylindraceis oblongis obtusis subinflatis, floribus pedicellatis bracteatis bracteis spathaceis, ovario oblongo obtuse 3-gono, calyce infundibulari ovario æquilongo ore truncato, corollæ 2-labiatæ tubo calyce triplo longiore, labio superiore (v. lobo postico) oblongo, inferiore orbiculari multo latiore basi cordato, staminodiis 2 dentiformibus.

Hab. West Tropical Africa; Fernando Po (1860), and Corisco Bay (1862), *Gustav Mann.*

Herba 4-pedalis. *Rhizoma* breve v. elongatum, crassitie digiti humani, erectum v. adscendens, cylindraceum, basibus foliorum delapsorum annulatum. *Folia* firma, 2–4 poll. lata, costa gracili, nervis tenuissimis, petiolo 1–3-pollicari; vagina elongata, sulcata, apice haud auriculata. *Racemi* annulis rhizomatis inserti, 6–10 poll. longi, erecti v. adscendentes, pedunculati, pedunculo crassitie pennæ anatinæ; bracteæ spathaceæ, pollicares v. breviores, distantes; bracteæ floriferæ 1–3-floræ, cæteris minores; pedicelli ⅓ poll. longi. *Ovarium* cum calyce ¾ poll. longum. *Corollæ* tubus rectus, basi gracilis, angustus, dein subinflatus, cylindraceus; limbus tubo brevior, 2-labiatus, labio superiore erecto obtuso, inferiore deflexo undulato.

This very remarkable *Renealmia* is one of the only two extra-American species of the genus hitherto found, and differs from its congeners in the distinctly bilabiate corolla, in which respect it much more resembles an *Alpinia* than *Renealmia*.—J. D. Hooker.

The other, also West African, species may be thus characterised :—

R. Mannii, *Hook. f.*, (*sp. nov.*) ; foliis longe petiolatis elliptico-lanceolatis abrupte caudato-acuminatis, vaginis longissimis, spicis e rhizomate infra folia ortis strictis erectis confertifloris, bracteis spathaceis brevibus late oblongis, floralibus orbiculatis concavis, floribus sessilibus, calycibus late campanulatis.

Hab. West Tropical Africa ; Fernando Po, *Gustav Mann* (1861).

Rhizoma breve. *Folia* 6–9 poll. longa, 2½–3 lata, petiolo 2–3-pollicari ; vagina 10-pollicaris, angusta. *Racemi* cum pedunculo 4-pollicares ; bracteæ ½ poll. longæ et latæ, inflatæ. *Ovarium* cum calyce ½-pollicare. Cetera desunt.

This differs from *R. africana* in the smaller, broader, longer-petioled leaves, short erect strict racemes, with sessile crowded flowers, and orbicular concave bracts.—J. D. Hooker.

Fig. 1. Bud. 2. Portion of corolla and anther. 3. Lower lip, anther, and lateral staminodes. 4. Anther. 5. Top of ovary and stylodia. 6. Transverse section of ovary. *All enlarged.*

Plate 1431.

PSILOCARYA CORYMBIFORMIS, *Benth.*

Cyperaceæ, Tribe Scirpeæ.

P. corymbifera, *Benth. in Gen. Pl.* iv. 1048 ; culmis 2–3-pedalibus, paniculis elongatis ramis ramulisque elongatis gracillimis, spiculis subcorymbosis lanceolatis, glumis numerosis ovato-lanceolatis acutis, floribus diandris, nuce orbiculari compressa obscure transverse undulata, styli basi triangulari rostrata. *Scirpus corymbiferus*, Wright in Sauv. Pl. Cub. 176.

Hab. Cuba, *C. Wright.*

Annua, elata, lævis. *Folia* ¼ poll. lata. *Spiculæ* ¼ poll. longæ, sæpissime ternæ, laterales longius pedicellatæ. *Glumæ* ad 20, castaneæ. *Nuces* $\frac{1}{36}$ poll. longæ.

This resembles *P. texensis*, but is of a much more slender habit, with more numerous narrower spikelets upon longer more slender branches of the panicle, and far more numerous glumes.

Fig. 1. Spikelet. 2. Glume. 3. Flower. 4. Style-arms. 5. Nut. *All enlarged.*

Plate 1432.

UTLERIA SALICIFOLIA, *Beddome.*

Asclepiadeæ, Tribe Periploceæ.

U. salicifolia, *Beddome MSS.* (*Species unica*); *Hook. f., Fl. Brit. Ind.* iv. 7.

Hab. Deccan Peninsula; Anamallay Mts., alt. 3–4000 ft., *Col. Beddome.*

Arbor parva, glaberrima, ramis crassis. *Folia* ad apices ramulorum conferta, alterna, petiolata, lineari-lanceolata, attenuato-acuminata, 7–9 poll. longa, ½–1 poll. lata, tenuiter coriacea, marginibus incrassatis obscure undulatis v. crenulatis, basi acuta, nervis numerosis tenuissimis divaricatis; petiolo 1–2-pollicari, tereti. *Flores* minuti, apices versus ramorum elongatorum; cymæ dichotomæ, longe pedunculatæ, laxe ramosæ; bracteæ in ramulis terminalibus cymæ numerosæ, minutæ, imbricatæ, obtusæ; pedicelli breves. *Calyx* 5-fidus, lobis ovatis subacutis, intus basi glandulosis. *Corolla* $\frac{1}{10}$ poll. diam., rotata, lobis ovatis subacutis dextrorsum obtegentibus tortisque. *Coronæ* squamæ ad basin filamentorum 5, parvæ, subrotundæ. *Filamenta* brevia, dilatata; antheræ ovatæ, apicibus conniventibus stigmati adhærentibus; pollinia pulverea, corpusculorum appendicibus dilatatis. *Ovarium* 2-loculare. *Stigma* convexum. *Folliculi* (immaturi) divaricati, teretes, læves, pugioniformes, longe rostrati, rostro recto.

One of the most remarkable of Indian *Asclepiadeæ*, resembling an Apocynaceous rather than an Asclepiadeous plant, and differing from all other *Periploceæ* in the alternate leaves. The fruit, which I had not seen when the plant was described in the 'Flora of British India,' is unripe, and the seeds unformed.—J. D. Hooker.

Fig. 1. Flower. 2. Calyx and stamens. 3. Sepal viewed from within. 4. Flower and scale. *All enlarged.*

Plate 1433.

ATHEROLEPIS WALLICHII, *Hook. f.*

Asclepiadeæ, Tribe Periploceæ.

Atherolepis, *Hook. f.*, (*gen. nov.*). *Calyx* semisuperus, tubo turbinato; lobi breves, triangulari-ovati, intus nudi. *Corolla* rotata, lobis triangularibus dextrorsum obtegentibus. *Coronæ* squamæ ad basin filamentorum 5, subulatæ, elongatæ. *Stamina* basi corollæ inserta,

filamentis brevibus distinctis cum glandulis totidem subglobosis alternantibus; antheræ oblongæ, apicibus conniventibus et stigmati adhærentibus; pollinia in quovis loculo 2, granularia; corpusculorum appendicibus dilatatis. *Ovarium* basi calycis tubo adnatum, superne liberum; stigma minutum, obtusum. *Folliculi* elongato-ellipsoidei, rostrati, sublignosi, post dehiscentiam scaphæformes. *Semina* oblongo-ovata complanata, dorso convexa, facie medio costata.—Frutex *gracilis, volubilis, puberulus.* Folia *opposita, anguste linearia v. elongato-lineari-oblonga, acuta, membranacea, nervis gracillimis divaricatis.* Flores *minuti, in cymas brevissimas axillares sessiles dispositi, pubescentes.* Folliculi 3-*pollicares, turgidi.*

A. Wallichii, *Hook. f. in Fl. Brit. Ind.* iv. 8. (*Species unica.*) Atherandra Wallichii, *Benth. in Gen. Plant.* ii. 744. Hemidesmus Wallichii, *Wight & Arn. Contrib.* 63; *Wall. Cat.* 8245; *Dcne. in DC. Prod.* viii. 495.

Hab. Pegu at Prome, *Wallich*; Rangoon, McLelland; Pegu Yomah, *Kurz in Herb. Calcutt.*

Caules gracillimi. *Folia* 4–8 poll. longa, ½–1½ poll. lata, tenuiter membranacea, nervis remotis, basi subacuta v. rotundata; petiolo gracili ½ poll. longo. *Cymæ* vix ½ poll. longæ, paucifloræ. *Flores* $\frac{1}{20}$ poll. diamet.

Since describing this plant in the 'Flora of British India' I have received fruiting specimen from the Calcutta Herbarium collected by the late S. Kurz.—J. D. Hooker.

Fig. 1. Bud. 2. Flower laid open. 3. Portion of corolla with stamens and coronal filaments. 4. Ovary. *All enlarged.*

Plate 1434.

CYCLOCAMPE ARUNDINACEA, *Benth.*

Cyperaceæ, Tribe Rhynchosporeæ.

C. arundinacea, *Benth.* (*sp. nov.*); rhizomate crasso, foliis 1–2-pedalibus vix ⅛ poll. latis radicalibus breviter vaginantibus marginibus revolutis supra lævibus subtus scaberulis, culmis gracilibus foliosis, spiculis ½ poll. longis gracile pedicellatis angustis teretiusculis glabris, glumis 8–10 ovato-lanceolatis, filamentis capillaribus setis plumosis æquilongis, antheris elongatis in rostrum tenue angustatis, stylo filiformi filamentis æquilongo, ramis capillaribus, nuce lineari-oblonga apiculata.

C. arundinacea, *Benth. in. Gen. Pl.* v. iii. p. 1063.

Hab. New Caledonia; presqu'île de Pum, *Deplanche*; Isle of Pines, in stony ground, *Milne.*

Rhizoma crassitie digiti minoris, reliquiis fibrosis foliorum vetustorum opertum. Culmi 2–3-pedales, foliosi. *Folia* pedalia et ultra marginibus sicco ad costam revolutis, apices versus plana. *Inflorescentia* pedalis et ultra, anguste oblonga, rachi flexuosa, ramis gracilibus inclinatis. *Spiculæ* numerosissimæ, pallide castaneæ, stigmatibus et apicibus setarum exsertis.

This differs from the *C. elongata*, Benth. (of the Seychelles Islands), in the very narrow leaves, and from *Asterochæte nitens*, Kunth (which I have not seen and assume to be a *Cyclocampe*),in the more numerous glumes.—J. D. Hooker.

Fig. 1. Spikelet. 2. Flower. 3. Nut. *All enlarged.*

Plate 1435.

ASTEROCHÆTE GLOMERATA, *Nees.*

Cyperaceæ, Tribe Rhynchosporeæ.

A. glomerata, *Nees in Linnæa*, x. 194; elata, robusta, culmis 3-gonis, foliis culmo brevioribus 1 poll. latis, planis coriaceis marginibus sub lente scaberulis, apicibus 3-gonis pungentibus, vaginis elongatis, spiculis in capitula subglobosa pollicaria bracteata dense congestis lanceolatis compressis, glumis ad 5 lanceolatis acuminatis tenuiter coriaceis v. membranaceis obscure scaberulis, setis scaberulis staminibus styloque filiformi æquilongis, filamentis antheris lineari-elongatis multo brevioribus, nuce elliptico-lanceolata compresso-3-gona.

Hab. South Africa; in the Uitenhage district, *Burchell*, &c.

Culmi 3–4-pedales, foliosi, basi crassitie pollicis humani, omnino læves. *Folia* suberecta, multistriata; præter margines lævia. *Panicula* pedalis et ultra, elongata, ramulorum angulis obscure scaberulis. *Capitula* bracteata; bracteæ breves, spiculas superantes. *Spiculæ* ¼ poll. longæ, pallidæ. *Nux* $\frac{1}{10}$ poll. longa.

A gigantic species compared with its congeners. The leaves are used by the Hottentots for the manufacture of hats.—J. D. Hooker.

Fig. 1. Spikelet. 2. Flower. 3. Nut. *All enlarged.*

Plate 1436.

GYMNEMA MACRANTHUM, *Hook. f.*

Asclepiadeæ, Tribe Marsdenieæ.

G. macranthum, *Hook. f.* (*sp. nov.*); caule robusto, foliis ellipticoovatis acuminatis glaberrimis, cymis corymbosis subumbellatisve puberulis, pedunculis crassis petiolo æquilongis v. longioribus, floribus magnis ebracteolatis, sepalis elliptico-oblongis obtusis, corollæ tubo sepalis æquilongo lobis intus pubescentibus, coronæ corollinæ processubus ore corollæ insertis cum lobis alternantibus parvis villosis.

Hab. Sikkim Himalaya, *Dr. King*.

Caulis crassitie pennæ anserinæ, teres. *Folia* remota, 3–5 poll. longa, subcoriacea, basi rotundata v. subcordata, nervis utrinque 3–4, petiolo crassiusculo 1½–2 poll. longo. *Pedunculi* 2–3 poll. longi, crassi, sæpius decurvi, apice corymbiferi, corymbis subsimplicibus. *Flores* ½ poll. diam., carnosuli; pedicellis crassis ¼–⅓ poll. longis. *Sepala* ¼ poll. longa. *Corollæ* tubus intus glaber, lobi tubo æquilongi, ovati, subacuti, intus medio incrassati. *Columna* crasse stipitata, magna; coronæ staminææ squamis dorso antherarum adnatis unguiformibus obtusis; antherarum apices magni, ovato-oblongi, obtusi, membranacei; pollinia oblongo-reniformia, breviter stipitata, corpusculo elongato affixa, erecta. *Stigma* crassum, exsertum, obtusum.

I have doubts as to the genus of this fine plant, which is more robust and much larger flowered than any of the other *Gymnemas*, and has singularly stout peduncles of the cymes. The outer (or corolline) coronal scales are reduced to tufts of hairs at the angles of the corolla-lobes. The staminal scales resemble those of *Marsdenia*. This was transmitted to Kew from the Calcutta Herbarium after the publication of the *Asclepiadeæ* in the 'Flora of British India.'—J. D. Hooker.

Fig. 1. Calyx. 2. Corolla laid open. 3. Column. 4. Side view of anther. 5. Pollen and corpuscle. *All enlarged.*

Plate 1437.

DIDISSANDRA RUFA, *King*.

Gesneraceæ, Tribe Didymocarpeæ.

D. rufa, *King* (*sp. nov.*); herbacea, acaulis, scapigera, foliis confertis patentibus sessilibus v. crasse petiolatis ovatis ellipticisve obtusis sinuato-crenatis nervis impressis supra glabris subtus scapo cymaque dense lanuginosis, cyma confertiflora, calycis semiquinquefidi lobis ovatis, corollæ tubo calyce ter longiore extus glabro intus lanato lobis 2 superioribus brevibus 3 inferioribus majoribus rotundatis.

D. rufa, *Dr. King, MSS. in Herb. Calcutt.*

Hab. Tibetan province of Chumbi, between Sikkim and Bhotan, alt. 11,000 feet (*Herb. Calcutt.*).

Rhizoma brevissimum, crassum, radices fibrosas emittens. *Folia* dense rosulata, crasse coriacea, 1–2 poll. longa, inferiora longiora in petiolum crassum complanatum angustata, nervis subtus crassis elevatis, junioribus tomento marginatis. *Scapus* 2–3-pollicaris, inflorescentia lana molli sicca brunnea induta, floribus paucis v. numerosis breviter pedicellatis, $\frac{1}{3}$–$\frac{1}{2}$ poll. longis. *Calyx* late campanulatus, tubus brevis. *Corollæ* tubus latus, lobis longior. *Stamina* perfecta 4, quinto rudimentario. *Discus* crenatus. Ovarium glaberrimum in stylum brevem attenuatum stigmate simplici. *Capsula* erecta, lineari-oblonga, acuminata, $\frac{1}{4}$ poll. longa, valvis demum bipartitis.

A near ally of *D. lanuginosa*, Clarke, differing in the stouter scape, densely woolly cyme, and much shorter straight capsule.—J. D. Hooker.

Fig. 1. Portion of leaf-margin. 2. Calyx. 3. Corolla laid open and stamens. 4. Anthers. 5. Ovary. 6. Capsule. 7. Seed. *All enlarged.*

Plate 1438.

FALCONERIA HIMALAICA, *Hook. f.*

Scrophularineæ, Tribe Veroniceæ ?

F. himalaica, *Hook. f. in Fl. Brit. Ind.* iv. 319. (*Species unica.*)

Hab. Western Himalaya; Kumaon, *Falconer*; Madhari pass, alt. 8000 feet, *Strachey and Winterbottom* (*Mazus n. 4 in herb.*)

Herba parvula, scapigera, laxe hirsuta. *Rhizoma* breve, fibras crassas emittens. *Folia* conferta, 3–5 poll. longa, obovata v. oblonga, obtusa,

olum latum angustata, irregulariter duplicato- et grosse crenata, inusve puberula, petiolo 1–1½ poll. longo superne alato. *Scapus* oll. longus, erecto-recurvus, floribus racemosis subsecundis, is ad basin pedicellorum parvis obovato-oblongis spathulatisve. a subæqualia, posteriore paullo minore, $\frac{1}{10}$ poll. longa. *Corolla* icaris, glabra, tubo basi decurvo; labio superiore brevi sub- to, inferioris lobis multo majoribus subrotundatis retusis. *Stamina* re corollæ inserta, filamentis brevibus; antheræ didymæ, sub- sæ, loculis paullo divergentibus. *Ovarium* oblongum, glaberrimum; s filiformis, stigmate capitellato.

s stated in the 'Flora of British India,' I am disposed to refer this ewhat anomalous plant to *Veronicæ*, and to the neighbourhood of *fenia*. Its habit is that of *Mazus*, but it differs from that genus from the tribe to which it belongs in the capitate stigma, and in lateral lobes of the corolla being (I think) outermost in bud. specimens are unfortunately not very good, and I have seen no .—J. D. Hooker.

g. 1. Calyx. 2. Corolla. 3 and 4. Stamens. 5. Pistil. *All enlarged.*

Plate 1439.

GENTIANA ROBUSTA, *King*.

Gentianeæ, Tribe Swertieæ.

. (Chondrophyllum) **robusta**; *King* (*sp. nov.*); caule ascendente usto simplici, foliis caulinis anguste linearibus paribus basi in um cylindraceum connatis nervis costæ parallelis supremis flores olucrantibus, floribus sessilibus axillaribus et in capitulum densum minale foliaceum involucratum congestis, calyce spathaceo mem- naceo corolla dimidio breviore 5-dentato dentibus brevibus subulatis, olla tubuloso-campanulata, lobis brevibus triangularibus plicis toti- n triangularibus alternantibus.

. **robusta**, *King, MSS. in Herb. Calcutt.*

Hab. Tibetan province of Chumbi, between Sikkim and Bhotan, 11,000 feet; (*Herb. Calcutt.*)

Caulis 8–12-pollicaris. *Folia* radicalia 0 ?, caulina fere pedalia, 1 . lata, crasse coriacea, nervis obscuris, floralia breviora, basi latiora. *res* 1¼–1½ poll. longi, epunctati, albo-virescentes ? *Calyx* ad medium s, dentibus 5 setaceis 2 sæpissime ceteris longioribus. *Corolla* medio llo inflata.

Closely allied to *G. tibetica* (plate 1441), and possibly a state of that plant, but smaller, with much longer narrower leaves, and calyx with setaceous teeth. Both these species were sent to me after the publication of the *Gentianeæ* in the 'Flora of British India.'—J. D. Hooker.

Fig. 1. Calyx. 2. Portion of corolla laid open. 3. Ovary. *All enlarged.*

Plate 1440.

A. GENTIANA LODERI, *Hook. f.*

B. GENTIANA BORNEENSIS, *Hook. f.*

Gentianeæ, Tribe Swertieæ.

G. (Chondrophyllum) **Loderi**, *Hook. f.* (*nov. sp.*); glaberrima, perennis, ramis prostratis foliosis apicibus adscendentibus, foliis late ellipticis obtusis sessilibus v. breviter petiolatis 3-nerviis, floribus pollicaribus ad apices ramorum solitariis sessilibus, calycis campanulati lobis tubum sub-æquantibus spathulatis patenti-recurvis, corolla tubuloso-campanulata cyanea lobis 5 ovato-rotundatis, squamis totidem erectis fimbriatis alternantibus, ovario lineari-lanceolato in stylum tenuem attenuato stigmatibus minutis.

Hab. Kashmir, *Mrs. Charles Radcliffe.*

Caules e radice perennante 3–4-pollicares, decumbentes, fusco-purpurei, foliosi. *Folia* ½ poll. longa, fere æquilata, patentia, utrinque obtusa, coriacea, integerrima, viridia et fusco-purpurascentia; 2 suprema floralia vix minora. *Calyx* ½-pollicaris, tubo purpurascente, lobis viridibus coriaceis. *Corolla* læte cyanea, limbo 1 poll. diametro, squamis laceris lobis ter minoribus.

A very beautiful little Gentian, quite unlike any Indian species, for which I am indebted to E. G. Loder, Esq., an enthusiastic cultivator of hardy herbaceous plants, who received it from the collector. Mrs. Radcliffe is not quite certain of the exact locality in which the plant was gathered, but believes it to have been in the Sind or Lidar Valley. Like the other Indian species described in this number of the Icones, it was received after the publication of the Order in the 'Flora of British India.'—J. D. Hooker.

A. Fig. 1. Portion of corolla laid open. 2. Ovary. *Both enlarged.*

G. (Chondrophyllum) **borneensis**, *Hook. f.* (*nov. sp.*); cæspitosa, pusilla, dense fastigiatim ramosa, ramis crassiusculis foliosis foliis confertis parvis sessilibus patentibus lanceolatis ovato-lanceolatisve subacutis marginibus inferne ciliolatis, floribus parvis ad apices

ramulorum subsolitariis, calycis lobis lanceolatis tubum æquantibus, corolla tubuloso-campanulata, lobis brevibus anguste ovatis plicis latis 2-fidis integerrimis alternantibus, ovario stipitato angusto in stylum gracilem attenuato, stigmatibus brevibus, capsula clavata inclusa.

Hab. Borneo; on Mount Kina-Balao, *Sir H. Low*.

Annua?; caules densissime cæspitosi, 1–2 poll. longi, undique foliosi. *Folia* $\frac{1}{4}$–$\frac{1}{3}$ poll. longa, basi imbricata, carnosula, uninervia, marginibus sicco recurvis. *Flores* $\frac{1}{3}$ poll. longi. *Corolla* medio paullo inflata, lobis parvis. *Antheræ* hastatæ.

This curious little species formed part of a small collection of plants found on Kina-Balao during the only ascent ever made of that remarkable mountain by Mr. (now Sir) Hugh Low, which resulted in the wonderful discovery of many gigantic species of *Nepenthes*. It is interesting as being the only species known to exist in the old world in the wide area between Java and the mountains of extratropical Australia. It is indeed very closely allied to the only Javan species, *G. quadrifaria*, Blume (G. laxicaulis, *Zoll.*), which extends from Kashmir to Bhotan in the Himalaya, and is also found in the Nilgherry Mountains, Ceylon, Burma, and China, which has a similar corolla. It may prove to be a form of that plant, but it is much smaller, and of a different habit, and the capsule is clavate.—J. D. Hooker.

B. Fig. 1. Leaf. 2. Tip of branch and flower. 3 and 4. Stamens. 5. Ovary. 6. Capsule. *All enlarged.*

Plate 1441.

GENTIANA TIBETICA, *King*.

Gentianeæ, Tribe Swertieæ.

G. (Chondrophyllum) **tibetica**, *King* (*nov. sp.*); caule simplici erecto elato robusto, foliis caulinis 6-pollicaribus lanceolatis in vaginam cylindraceam elongatam connatis, supremis sessilibus subverticillatis flores involucrantibus, floribus in axillis foliorum superiorum aggregatis sessilibus, calyce tubuloso-campanulato membranaceo hyalino hinc fisso truncato ore minutissime 5-dentato, corolla calyce duplo longiore tubuloso-infundibuliformi, lobis brevibus triangularibus sinubus plica triangulari instructis, capsula inclusa, seminibus oblongis testa reticulata.

G. tibetica, *King MSS. in Herb. Calcutt.*

Hab. Tibetan province of Chumbi, between Sikkim and Bhotan, alt. 11,000 feet (*Herb. Calcutt.*).

Caulis 18-pollicaris, erectus, crassitie pennæ anserinæ, simplex. *Folia* radicalia 0?; caulina elongata, sessilia, 5–7 poll. longa, 1–1½ lata; superiora latiora in tubum breviorem connata, suprema radiantia ovato-oblonga v. -lanceolata. *Flores* pollicares. *Corolla* epunctata, medio paullo inflata. *Ovarium* sessile, stylo brevi, stigmate 2-lobo. *Capsula* sessilis, lineari-oblonga, apice dehiscens, valvis recurvis.—J. D. Hooker.

A very fine species, closely allied to *G. robusta* (Plate 1439), but distinguished by the calyx and much broader leaves. On the plate the specific name is erroneously spelled *Thibetica*.—J. D. Hooker.

Fig. 1. Calyx. 2. Part of corolla laid open. 3. Ovary. 4. Capsule. 5. Seeds. *All enlarged.*

Plate 1442.

SWERTIA KINGII, *Hook. f.*

Gentianeæ, Tribe Swertieæ.

S. (Euswertia) **Kingii**, *Hook. f.* (*nov. sp.*); rhizomate perennante fibris foliorum vetustorum coronato, caule elato robusto simplici, foliis oppositis radicalibus amplis ellipticis subacutis in petiolum crassum angustatis, caulinis oblongo-ovatis sessilibus semiamplexicaulibus, cymis axillaribus et in thyrsum terminalem dispositis, floribus 2 poll. diametr. 5-nerviis, sepalis lanceolatis integerrimis, corollæ segmentis oblongis obtusis glandulis basi binis crinitis, filamentis basi squama fimbriata instructis.

Hab. Sikkim Himalaya; at Na Tung. (*Herb. Calcutt.*)

Caulis simplex, 2-pedalis, crassitie basi pollicis humani. *Folia* radicalia, et inferiora 4–6 poll. longa, 2–4 poll. lata, multinervia, petiolo 2–3-pollicari in vaginam semi-amplexicaulem dilatato. *Flores* albo-virescentes, mediocriter pedicellati, pedicellis interdum subumbellatis. *Sepala* ⅔ poll. longa, corollæ segmentis ⅓ breviora. *Fossæ nectariferæ* ad basin cujusvis lobi corollæ oblongæ, undique crinito-fimbriatæ. *Filamenta* filiformi-subulata. *Ovarium* anguste oblongum, stigmate sessili.

This noble species was transmitted by Dr. King from the Calcutta Herbarium after the publication of the *Gentianeæ* in vol. iv. of the 'Flora of British India.' It is most nearly allied to *S. petiolata*.—J. D. Hooker.

Fig. 1. Portion of corolla with stamens, glands, and scales. 2. Base of segment of corolla and nectaries. 3 and 4. Stamens. 5. Ovary. *All enlarged.*

Plate 1443.

OSYRIDOCARPOS SCHIMPERIANUS, *A. DC.*

Santalaceæ.

O. Schimperianus, *A. Decand. Prodr.* xiv. 635; frutex diffusus glaber; ramulis virgatis costatis, foliis ovalibus lanceolatisve sæpe acuminatis, floribus breviter pedicellatis, perianthio 5-costato, tubo basi inter costas obscure verrucoso, fructu obovoideo v. subgloboso, pericarpio carnosulo.

Hab. Abyssinia, *Schimper*; Zambesia, *Sir J. Kirk* (1859).

Folia subcoriacea trinervia basi in petiolum angustata, $\frac{3}{4}$–2 poll. longa, $\frac{1}{4}$–$\frac{5}{8}$ poll. lata. *Flores* axillares v. in racemis terminalibus bracteatis dispositi $\frac{1}{3}$ poll. longi, solitarii bini v. terni, glabri v. obscure puberuli. *Fructus* $\frac{1}{4}$ poll. diam. tubo perianthii persistente coronatus. *Semen* . . . .

I believe the South African and Natal plant (*O. natalensis*, A. DC.) is not specifically different from the above. Dr. Burchell's Cape specimens correspond with tropical African ones, and the presence and prominence of the fleshy tubercles on the base of the perianth-tube afford no constant distinction.—D. Oliver.

Fig. 1. Flower and pedicels of two lateral flowers, fallen. 2. Perianth-tube laid open. 3. Inferior ovary and style. 4. Ovary laid open, showing the twisted placenta bearing 3 or 4 ovules. *All enlarged.*

Plate 1444.

WIGHTIA BORNEENSIS, *Hook. f.*

Scrophularineæ, Tribe Cheloneæ.

W. borneensis, *Hook. f.* (*sp. nov.*); ramulis foliisque glaberrimis, foliis petiolatis ellipticis obtuse acuminatis, inflorescentia tota tomentella, calyce hemispherico margine integerrimo.

Hab. North-Eastern Borneo, *Thos. Lobb* (1857).

Arbor 20-pedalis. *Folia* 3–4 poll. longa, coriacea, in petiolum angustata, sicca brunnea, nervis utrinque 2–3, petiolo $\frac{3}{4}$-pollicari.

Racemi terminales, 8–10-flori, erecti, rachi glabra; pedicellis ½-pollicaribus. *Calyx* ⅓ poll. diam. *Corolla* 2–2½-pollicaris, buccinæformis, falcata, purpurea, tomento stellato sicco fusco dense obsita; lobis rotundatis, ore modice ampliato. *Stamina* basin versus corollæ inserta; filamentis gracilibus longe exsertis basi villosis; antheræ sagittatæ. *Stylus* filiformis, stigmate simplici. *Ovarium* glaberrimum.

A very distinct species, differing from the Javan and Indian ones in the quite entire calyx limb, fewer nerves in the leaves, comparatively slender pedicels, and much longer flowers.—J. D. Hooker.

Fig. 1. Portion of corolla laid open, with stamens and pistil. 2. Stellate hairs. 3 and 4. Anthers. 5. Transverse section of ovary. *All but fig.* 1 *enlarged.*

Plate 1445.

TEPHROSIA PLICATA, *Oliv.*

Leguminosæ, Tribe Galegeæ.

T. plicata, *Oliver* (*sp. nov.*); suffrutex ½–1-ped., caulibus rigidulis diffusis hirto-tomentellis procumbentibus adscendentibusve, foliis trifoliolatis brevissime petiolatis, foliolis rigidulis anguste oblanceolatis longitudinaliter nervosis apice mucrone recurvato subtus pubescentibus, floribus minutis axillaribus sæpius geminatis subsessilibus, legumine oblongo hirto transverse 3–5-plicato.

Hab. Natal, *Gerrard* (1087); Transvaal, *Dr. Rehmann* (4922).

Folia poll. longa, v. foliolo centrali longiore, supra glabrata, subtus laxe aut appresse pubescentia; petiolus 1–2 lin. longus; stipulæ subulatæ breves. *Calyx* pubescens 5-fidus, lobis lanceolatis acutis tubo æquilongis. *Corolla* calyce longior, vexillo obovato subpanduriformi retuso unguiculato; alæ atque carina longe unguiculatæ. *Legumen* ⅜–½ poll. longum, ¼ poll. latum, intus continuum, abrupte 3–5-plicatum. *Semina* compressa inappendiculata.—D. Oliver.

Fig. 1. Flower, side view. 2. Vexillum. 3. Wing-petal. 4. Carina. 5. Stamens. 6. Ovary. 7. Legume. 8. Seed. 9. Embryo. *All enlarged.*

Plate 1446.

BOUCHEA HANNINGTONII, *Oliv.*

Verbenaceæ, Tribe Verbeneæ.

B. Hanningtonii, *Oliver* (*sp. nov.*); herba strigosula parce pilosa, foliis ovali-oblongis acutis basi angustatis apicem versus subremote serratis supra pilis brevibus adpressis parce strigosis subtus præcipue in nervis setoso-pilosis, spicis ½ ped. longis multifloris, bracteis ovato-lanceolatis longe acuminatis calyce parce setoso-pilosulo multo brevioribus, corolla calyce triplo longiore.

Hab. E. Tropical Africa, 2°–7° South latitude, *Rev. J. Hannington.*

Folia 1–1½ poll. longa, ⅓–½ poll. lata. *Calyx* anguste tubulosus, valide 5-costatus dentibus 2 anticis ceteris 2–3-plo longioribus. *Corolla* tubo elongato, 1⅓–1½ poll. longo, glaberrimo; limbo 5-lobo, lobis 2 posticis brevioribus. *Stamina* inclusa.

This is amongst an interesting collection presented to the Herbarium last June by Mr. Hannington and collected by him under very adverse circumstances. One of the most remarkable of his plants is a new Passifloracea, with all the *facies* of a miniature Passion-flower, but with the floral structure of *Basananthe*, from the known species of which genus it is very different in habit. The material unfortunately hardly suffices for a satisfactory figure.—D. Oliver.

Fig. 1. Calyx and unusually short bract. 2. Corolla laid open. 3. Stamens and their attachment. 4. Ovary. *All enlarged.*

Plate 1447.

ERIGERON ELLISII, *Hook. f.*

Compositæ, Tribe Asteroideæ.

E. Ellisii, *Hook. f.* (*sp. nov.*); perennis, hispidulus, robustus, caule superne ramoso, foliis inferioribus elongato-obovatis obtusis in petiolum latum angustatis paucidentatis, superioribus sessilibus oblongis, capitulis corymbosis longe pedunculatis, pedunculis involucroque glanduloso-hispidis, bracteis inæqualibus subulato-lanceolatis, ligulis

angustissimis glaberrimis involucro duplo longioribus erecto-patentibus, achæniis anguste oblongis minutis sericeis, pappo albo.

HAB. Kashmir, *R. Ellis, Esq.* (*raised from seed in Hort. Kew.*)

Herba stricta, erecta, foliosa, 1–2-pedalis, caule crassitie pennæ anatinæ sulcato. *Folia* utrinque asperula, radicalia (petiolo incluso) 5–7-pollicaria, læte viridia, interdum grosse pauciserrata, penninervia; superiora oblonga v. obovata, ½-amplexicaulia. *Corymbi* 10–20-flori; pedicelli 3–5-pollicares, nudi v. foliis parvis ovatis acuminatis bracteati, robusti, patentim hispidi et glandulari. *Capitula* ½–¾ poll. longa, subcampanulata; involucro ¼ poll. longo, angusto, bracteis fusco-purpureis subsquarrosis apicibus siccis tenuibus flexuosis. *Flores* glaberrimi. *Ligulæ* involucro duplo longiores, pluriseriatæ, rubro-purpureæ. *Fl. disci* angusti. *Achænia* pallida, $\frac{1}{16}$ poll. longa; pappo haud copioso ¼ poll. longo.

This was raised at Kew from Kashmir seed, sent by R. Ellis, Esq., in 1882, and is very distinct from any hitherto described.—J. D. HOOKER.

Fig. 1. Bract of involucre. 2. Ray-flower. 3. Pappus hair. 4. Its style-arms. 5. Disk flower. 6. Its style-arms. 7. Achene. *All enlarged.*

PLATE 1448.

GARDENIA STORCKII, *Oliv.*

RUBIACEÆ, Tribe GARDENIEÆ.

G. Storckii, *Oliver* (*sp. nov.*). Arbor mediocris glabra, foliis ellipticis v. oblongo- v. obovato-ellipticis breviter obtuse acuminatis, basi breviter rotundatis, tenuiter coriaceis vernatione vernicoso-nitentibus, petiolatis, stipulis connatis coriaceis persistentibus ramulis ultimis annulatim vaginantibus, calycis segmentis elongatis lineari-spathulatis corollæ tubum æquantibus coriaceis persistentibus, corolla hypocrateriformi limbo 7-partito, segmentis ovato- v. oblongo-lanceolatis, fructu lævi globoso.

HAB. Fiji, *Mr. Storck.*

Folia 3–5 poll. longa, 1½–2 poll. lata, costa subtus venisque primariis utrinque 9–13 prominentibus; petiolus ½–¾ poll. longus. *Flores* terminales solitarii brevissime pedunculati. *Calyx* segmentis 1–1¾ poll. longis longitudinaliter nervosis. *Corolla* limbo 2½–3 poll. diam. *Fructus* ¾–¾ poll. latus, limbo calycis persistente coronatus.

Allied to *G. taitensis*, DC. Vieillard's No. 2748, from New Caledonia, of which we have an imperfect specimen, may prove the same.—D. OLIVER.

Fig. 1. Fruit. 2. Same laid open. *About natural size.*

PLATE 1449.

LASIOSTELMA SANDERSONI, *Oliv.*

ASCLEPIADEÆ, Tribe MARSDENIEÆ.

L. Sandersoni, *Oliver* (*sp. nov.*); herba erecta flexuosa glabra, foliis oblongo-ellipticis obtusis mucronulatis brevissime petiolatis crassiusculis venulis obscuris, floribus in una axilla 2–4 fasciculatis, pedicellatis, calyce 5-partito corolla breviore lobis lineari-lanceolatis, corolla rotata v. campanulato-rotata 5-fida, lobis ovatis obtusis reticulatis, corona exteriore lobis 5 a basi bipartitis, segmentis linearibus obtusiusculis gynostegio æquilongis.

HAB. Natal, *J. Sanderson.*

Herba $\frac{3}{4}$–1-ped. *Folia* plus minusve poll. longa. *Flores* parvi, $\frac{1}{6}$–$\frac{1}{4}$ poll. diam.; pedicelli $\frac{1}{10}$–$\frac{1}{8}$ poll. longi.

Nearly related to this, and probably a form with the leaves scabrid on the midrib beneath and obscurely setulose-serrulate on the margin, is Gerrard's Natal No. 1805. The leaf-margin in Mr. Sanderson's specimen is entire or obscurely setulose.—D. OLIVER.

Fig. 1. Portion of leaf-margin as in Gerrard's 1805. 2. Bud. 3. Expanded flower. 4. Gynostegium. 5. Same, outer corona laid back. 6. Segment of corona. 7. Anther. 8. Pollen. *Enlarged.*

PLATE 1450.

TYLOPHORA MICROSTACHYS, *Hook. f.*

ASCLEPIADEÆ, Tribe MARSDENIEÆ.

T. microstachys, *Hook. f.* (*sp. nov.*); glaberrima, foliis breviter petiolatis lineari-lanceolatis acuminatis, cymis in racemos brevissimos axillares sessiles densifloros reductis, bracteis minimis setaceis, floribus minutis breviter pedicellatis, sepalis setaceo-lanceolatis corollam æquantibus, columna staminea subovoidea, coronæ processubus obscuris, folliculis elongatis pugioniformibus apicibus longe productis.

Hab. Tenasserim; at Moulmein, *Falconer* (*in Herb. Calcutt.*).

Caules tenues, volubiles. *Folia* 2–3 poll. longa, $\frac{1}{4}$–$\frac{1}{2}$ poll. lata, su coriacea, costa valida, nervis obscuris. *Racemi* $\frac{1}{4}$–$\frac{1}{2}$ poll. longi, oblong *Flores* $\frac{1}{12}$ poll. diametro. *Corollæ* lobi ovati. *Columna* majuscu apicibus antherarum rotundatis. *Folliculi* 2–4 poll. longi, $\frac{1}{3}$–$\frac{1}{2}$ po diam., tenuiter coriacei. *Semina* oblongo-ovoidea, $\frac{1}{3}$ poll. longa, co cavo-convexa, brunnea, coma $\frac{1}{2}$ poll. longa.

This very singular species was communicated to me by Dr. Kin from the Calcutta Herbarium, after the *Asclepiadeæ* had been pu lished in the 'Flora of British India.' It belongs to the section defin at vol. iv. p. 41 of that work, as having twining branches, glabro cymes, and coronal processes without free points.—J. D. Hooker.

Fig. 1. Flower. 2. Staminal column. 3. Seed. *All enlarged.*

ICONES PLANTARUM.

Plate 1451.

SPHACOPHYLLUM KIRKII, *Oliv.*

Compositæ, Tribe Inuloideæ, Sub-tribe Buphthalmeæ.

S. **Kirkii**, *Oliv.* (*sp. nov.*); frutex v. arborescens, ramulis teretibus nodosis striatis tomentellis, foliis alternis petiolatis ovatis acutiusculis, margine crenato-lobulatis, supra scabrido-hirtis, subtus reticulatim rugosis tomentellis, petiolis sæpe lobis parvis paucisque crenatis utrinque instructis, capitulis breviter pedunculatis in fasciculis corymbisve terminalibus subsessilibus folia vix superantibus dispositis, involucro hemisphærico, bracteis inæqualibus oblongis hirtis rigidulis disco vix æquilongis, paleis receptaculi conduplicatis apice sæpius trifidis lobo centrali subulato longiore, radii floribus circ. 15–18 ligulis oblongo-ovalibus recurvis luteis, achæniis curvulis 5-costatis cum costulis intermediis, costis basi confluentibus apice disco angustissimo coronatis.

Hab. Dzomba, Zambesia, 6–7,000 ft. (Sept., 1859), *Sir J. Kirk.*

Ramuli crassitie pennæ anserinæ, demum glabrati. *Folia* 1–2 poll. longa; petiolus $\frac{1}{4}$–$\frac{1}{2}$ poll. longus. *Capitula* $\frac{1}{2}$ poll. diam., in corymbis 6-10-cephalis congesta.

The only hesitation which I feel in referring this plant to *Sphacophyllum* arises from the reduction of the short coroniform pappus characteristic of previously known species of the genus, to a mere rim or marginal annulus. In other respects the plant approaches *Anisopappus africanus*, O & H., in which, however, there is an evident,

though slightly irregular pappus. In *Sphacophyllum Bojeri*, Benth. (Ic. Plant. 1135), the pappus is reduced almost, but not quite, to the condition here figured.—D. Oliver.

Fig. 1. Scale of involucre. 2. Ray-floret. 3. Disk-floret and palea. 4. Palea of receptacle. 5. Stamens. 6. Style-branches. 7. Achene. *All enlarged.*

Plate 1452.

ALEPIDEA WOODII, *Oliv.*

Umbelliferæ, Tribe Saniculeæ.

A. Woodii, *Oliv.* (*sp. nov.*); herba 1–1½ ped., foliis radicalibus petiolatis oblongo-oblanceolatis obtusis setoso-serratis glabris, caulinis sessilibus amplexicaulibus acutis acuminatisve, capitulis parvis corymboso-paniculatis, bracteis 10 ad medium coalitis apicibus liberis ovatis deltoideisve alternatim minoribus, fructibus sublævibus longitudinaliter obscure costatis, limbo calycino obtuse lobato.

Hab. Natal, near Byrne; alt. 3,000 ft. (November, 1845), *J. M. Wood.*

Folia radicalia cum petiolo 3–4 poll. longa, 1–1⅔ poll. lata. *Capitula* 3–4 lin. lata. *Flores* albi.

Allied to *A. amatymbica*, E and Z., but the small involucres very different, the bracts of the latter species being free two-thirds or three-quarters of their length, and the free apices lanceolate.—D. Oliver.

Fig. 1. Capitulum and involucre. 2. Staminate flower. 3. Pistillate flower. 4. Transverse section of mericarp. *Enlarged.*

Plate 1453.

OTIOPHORA CUPHEOIDES, *N. E. Br.*

Rubiaceæ, Tribe Anthospermeæ.

O. cupheoides, *N. E. Br.* (*sp. nov.*); suffrutex erectus, caule breviter hirsuto, foliis brevissime petiolatis ovato-lanceolatis acutiusculis glabratis, margine revolutis, racemis terminalibus densis brevibus, calycis tubo sub-tomentoso, lobo foliaceo unico lanceolato glabro setuloso-

ciliato corollæ tubum æquante, limbo corollæ quinquefido lobis anguste lanceolatis.

HAB. Transvaal, Houtbosch, *Dr. A. Rehmann.*

Caulis pedalis, inferne nudus. *Folia* semipollicaria, glabra, costa supra subtusque pilosula; stipulæ 2–5-fidæ, parvæ. *Racemi* subpollicares; pedicelli brevissimi, fructiferi capsulam subæquantes. *Calyx* lobo foliaceo 2–3 lin. longo. *Corolla* 2 lin. longa, lobi tubo paullo breviores.—N. E. BROWN.

Fig. 1. Flower. 2. Corolla laid open. 3 and 4. Stamens. 5. Style. 6. Fruit. 7. Vertical section of fruit. *All enlarged.*

PLATE 1454.

CUSSONIA GERRARDI, *Seem.*

ARALIACEÆ.

C. Gerrardi, *Seem., Rev. Hederaceæ*, p. 74; arbuscula glabra, foliis palmatifidis basi cordatis, lobis deltoideis acutis v. acuminatis inæqualiter glanduloso-dentatis v. serratis, floribus umbellatis umbellis pedunculatis racemosis v. racemosim paniculatis, fructibus lateraliter compressis obovatis lævibus longitudinaliter leviter costatis.—*Panax Gerrardi*, Harv. Gen. So. Afr. Pl., ed. ii. p. 147.

HAB. Natal, at Ismont, *Gerrard*, No. 1264; *J. M. Wood*, (Nov. 1879).

Folia 3–6 poll. longa et lata, subtus in axillis nervorum ad apicem petioli interdum barbato-tomentellis; petiolus 2½–5 poll. longus. *Racemi* pedunculati, axillares v. terminales, bracteis deltoideis squamiformibus; umbellis multifloris glabris, bracteolis minutis; pedicellis in ovario continuis. *Calyx* limbo breviter 5-dentato, dentibus late deltoideo-ovatis. *Petala* ovata, leviter imbricata. *Styli* 2, divaricati, demum recurvi, persistentes. *Fructus* (vix maturatus) 4 lin. longus.

I think a very doubtful member of the genus *Cussonia*. The petals are imbricate in æstivation, and the ovary and fruit much compressed laterally.—D. OLIVER.

Fig. 1. Flower. 2–3. Stamens. 4. Ovary, disk, and styles. 5. Longitudinal section of same. 6. Immature fruit. 7. Young seed. *Enlarged.*

Plate 1455.

AGROSTIS SIMULANS, *Hemsl.*

Gramineæ, Tribe Agrostideæ.

A. simulans, *Hemsl.* (*sp. nov.*); *A. albæ* var. *stoloniferæ* simillima, differt ligula breviore, ramulis inflorescentiæ divaricatis glumis multo minus scariosis, etc.

Hab. St. Helena, *Burchell*, 1810; *Hooker*, 1840; *Melliss*, 1863.

This Grass so strongly resembles the stoloniferous variety of *Agrostis alba* in many particulars that it is difficult to draw up a description that would not include the two. The loose inflorescence, with nearly horizontal branches, is the most striking character of *A. simulans*, and the glumes are almost wholly opaque. These differences may be due to local causes; still the late General Munro has marked it 'good species,' and there is nothing among the numerous specimens at Kew, referred to *A. alba*, with which it agrees except in a general way. The only St. Helena plant previously ascribed to *Agrostis* is *A. purpurascens*, Roxb., which is doubtless *Sporobolus indicus*.—W. B. Hemsley.

Fig. 1. Upper part of sheath and ligule. 2. Spikelet. 3. Flowering glume. 4. Palea. 5. Pistil. *All enlarged.*

Plate 1456.

SENECIO BOLUSII, *Oliv.*

Compositæ, Tribe Senecionideæ.

S. Bolusii, *Oliv.* (*sp. nov.*); perennis, glaber, caule e basi decumbente erecto herbaceo folioso nunc simplici sub-monocephalo nunc in ramulos 3–4 monocephalos elongatos apice diviso, foliis anguste lineari-lanceolatis acutis basi in petiolum longiuscule attenuatis denticulatis v. subintegris glabris axillis piloso-barbatis, pedunculis remote squamulosis, capitulis heterogamis majusculis multifloris, involucro 12–15-phyllo ecalyculato disco æquilongo, squamis dorso leviter costatis acuminatis alternis late marginatis, achæniis disci papilloso-pilosulis et radii glabris longitudinaliter 5–7-jugatis, jugis in sectione oblique tortis.

Mitchell's Pass, near Ceres, South Africa, *H. Bolus*, 1882, 21).

ı 1–2-pedalis. *Caulis* decumbens, axillis foliorum exceptis internodiis brevibus leviter angulatis. *Folia* coriacea cum semi-amplexicaule 3–4 poll. longa, 3–4½ lin. lata. *Capitula* edunculata, pedunculis ¾–1½ ped. longis, squamulis pedunculi acuminatis herbaceis ¼–¾ poll. longis; involucro ¾ poll. lato squamis liberis crassiusculis 6–7 lin. longis; floribus radii ligulatis, ligulis late obovato-ellipticis 4–6 lin. longis, achæniis 2 lin. longis; floribus disci tubulosis acute 5-dentatis; stylo ramis truncatis penicillato-papillosis; achæniis papilloso-hirtis, copioso albo barbellato.

plant has the *facies* of an *Othonna* or *Othonnopsis*, but as the ets appear to be fertile and their styles bifid, I suppose it must ped with *Senecio othonnæflorus*, DC., and its allies. The very ble 5 to 7 prominent jugæ of the achenes would appear to be n extreme development of the longitudinal ridges, often more arked, of the achenes of *Senecio* and its allies.—D. Oliver.

Ray-floret. 2. Seta of pappus. 3. Achene. 4. Disk floret. 5. Stamen. anches. 7. Achene. 8. Transverse section of same. *All enlarged.*

Plate 1457.

SONERILA FORDII, *Oliv.*

Melastomaceæ, Tribe Sonerileæ.

rdii, *Oliv.* (*sp. nov.*); herba 1–2-pedalis, foliis petiolatis ovato- ı acuminatis, basi anguste cordatis, dentibus incurvis serratis li-nerviis, cymis terminalibus pedunculatis bracteatis, bracteis is æquilongis tenuiter membranaceis coloratis obovatis late tisve margine glanduloso-denticulatis caducis, floribus tetra- alycis lobis tenuibus ovatis petalis ovatis apice setuloso-apicu- vioribus, staminibus 8 inæqualibus oppositipetalis brevioribus ı (luteis) oblongo-lanceolatis 1-porosis obtusiusculis, oppositi- antheris elongatis leviter incurvatis 1-porosis basi obtuse bilobis, quamis membranaceis late rotundatis coronato.

Lo Fan Shan, South China, 3,100 ft., *C. Ford*, 1883 (No. 95).

3–4 poll. longa, 1¼–2 poll. lata, glabra v. supra setulis minutis ı 1–2-seriatis intramarginalibus. *Calyx* in pedicellum angus- parse glandulosus, glandulis tenuibus clavatis.

I leave this plant in *Sonerila*, notwithstanding the tetramerous symmetry of its flowers and dimorphic biseriate stamens. It is allied to that section of the genus to which *S. heterostemon*, Naud. and *S. Bensoni*, Hk. f., belong.—D. Oliver.

Fig. 1. Calyx-lobe. 2. Petal. 3. Calyx-tube laid open. 4. Sepal-opposed stamen. 5–6. Back and front view of petal-opposed stamen. *All enlarged.*

Plate 1458.

PSEUDOCARAPA CHAMPIONII, *Hemsl.*

Meliaceæ.

Pseudocarapa, *Hemsl.* (*gen. nov.*); *Calyx* brevis, irregulariter 4 dentatus, dentibus latis. Petala 4, libera, valvata vel apice leviter imbricata. *Tubus stamineus* cylindricus, crenulatus; antheræ sæpius 9, uniseriatæ, inclusæ. *Discus* carnosus, obsolete lobatus, ovarium semiincludens. *Ovarium* 4-loculare, 4-costatum; stylus tubum stamineum æquans, stigmate parvo subcapitato; ovula in loculis 2, collateralia, pendula. *Fructus* drupaceus pyriformis vel subglobosus, abortu pauci-spermus, ut videtur tarde irregulariter dehiscens; semina exalbuminosa, testa nigra nitida, arillo parvo; cotyledones crassæ, carnosæ, radicula minuta.—*Arbor. Folia paripinnata. Flores mediocres, racemosi.*

P. Championii, *Hemsl.* (*Species unica*). Dysoxylon Championii, *Hook. f. et T. in Thwaites Enum. Zeylan. Plant.* p. 61; Amoora Championii, *Hook. f. in Benth. et Hook. Gen. Pl.* i. p. 333.

Hab. Ceylon, Central Province up to an elevation of 4,000 feet, *Walker*, *Thwaites*, 1193, 2504.

This genus combines some of the characters of various genera of the *Trichilieæ*, but is perhaps, on the whole, nearest *Dysoxylum*. In foliage it so closely resembles *Carapa* (*Xylocarpus*) that Kurz (Journ. Asiatic Soc. xxxix. 2 (1870), p. 72) places it in that genus.—W. B. Hemsley.

Fig. 1. Bud. 2. Staminal tube. 3. Pistil and disk. 4. Transverse section of ovary. 5. Fruit. 6. Seed. 7. Cotyledon, transverse section. *All enlarged, except fruit.*

PLATE 1459.

MENODORA HETEROPHYLLA, *Moric.*

OLEACEÆ, Tribe JASMINEÆ.

M. heterophylla, *Moricand*; *DC. Prodr.* viii. 316 (*sp. africanum*); fruticulus 4–5-poll., caulibus costatis sparse papilloso-scabridis, foliis alternis breviter latiuscule petiolatis v. subsessilibus in costis tribus decurrentibus tripartitis, lobo medio longiore sæpe trifido, lobis lanceolatis v. lineari-lanceolatis acutis, calyce profunde 10-fido v. 10-partito ejusdem segmentis linearibus scaberulis, corollæ lobis obovato-oblongis v. -ellipticis obtusis interdum breviter apiculatis.

HAB. Transvaal, Matebe Valley, *Dr. Holub* (also in North Mexico and Texas).

Although we have no fruiting specimens from South Africa, yet there seems no ground to doubt the identity of this Transvaal plant, which my colleague, Mr. Brown, finds amongst the interesting collections presented to the Royal Gardens by Dr. Holub, the determination of which has recently occupied him, with North American specimens of which we have an ample series.

The occurrence of this little genus in regions so far apart as Mexico, the Andes of Mendoza, and South Africa, is not new to botanists, and now the interest of the case is heightened by Dr. Holub's discovery of a second South African species actually conspecific with a North American one. The old Cape species differs from this in its bipinnatipartite, narrowly segmented, almost muscoid leaves. It is figured in Ic. Plant. t. 586.—D. OLIVER.

Fig. 1. Leaf. 2. Calyx. 3. Corolla laid open. 4. Pistil. *Enlarged.*

PLATE 1460.

PRISMATOCARPUS TENELLUS, *Oliv.*

CAMPANULACEÆ.

P. tenellus, *Oliv.* (*sp. nov.*); herba glabra caulibus gracillimis diffusis 1½–3-ped. 2–3-chotome divisis 4-angulatis parce foliatis, foliis oppositis brevibus linearibus acutis remotis, floribus gracile pedicellatis laxe paniculatis, pedunculis patentibus, calycis lobis subulatis,

corolla infundibulari 5-fida lobis ovatis, capsulis teretibus spiraliter tortis glabris, seminibus oblongis minute tuberculatis.

HAB. In montibus supra Worcester, Cape of Good Hope, *Dr. A. Rehmann* (No. 2477).

Folia 3–4 lin. longa. *Pedicelli* divaricati, 3–5 lin. longi. *Corolla* 2–3 lin. longa, limbo calycis 2–3-plo longior. *Capsula* $\frac{1}{3}$ poll. longa.

A very slender herb, sparingly di–trichotomously branched below, with widely divaricate lax inflorescence, remarkable in the genus from its strictly opposite leaves, though in distant pairs, and the spiral torsion of the capsule, as in a small-fruited *Streptocarpus*.—D. OLIVER.

Fig. 1. Flower. 2. Stamens. 3. Stigmas. 4. Fruit. 5. Seed. *All enlarged.*

PLATE 1461.

DICOMA ARGYROPHYLLA, *Oliv.*

COMPOSITÆ, Tribe MUTISIACEÆ.

D. (§ Pterocoma) **argyrophylla**, *Oliv.* (*sp. nov.*); caulibus $1\frac{1}{4}$–$1\frac{1}{2}$ ped. erectis simplicibus v. basin versus parce ramosis, ramis floriferis adscendentibus dense foliatis, foliis dimorphis, superioribus (bracteis pedunculorum) laxe imbricatis vel inferne patentibus rigidiusculis lanceolatis spinoso-acuminatis integris minute ciliolatis paginis glabris subtus splendescentibus, foliis primordialibus paucis oblanceolatis v. obovatis obtusis acute apiculatis v. acuminatis, basi in petiolum angustatis, membranaceis supra glabris subtus tenuiter cano-tomentosis, capitulis majusculis solitariis, terminalibus sessilibus bracteis superioribus involucratis discoideis homogamis, achæniis dense pilosis pappo copioso pluriseriato plumoso coronatis.

HAB. Natal, *Gerrard* (No. 1906); 2000 to 2500 ft., grassy hills between Umlaas and Camperdown, *J. M. Wood* (No. 1825); Farkkop, *Dr. Rehmann* (No. 7656).

Folia inferiora membranacea, 2–3 poll. longa., $\frac{3}{4}$–1 poll. lata; superiora gradatim majora, intermedia $\frac{3}{4}$–$1\frac{1}{2}$ poll. longa, $\frac{1}{4}$–$\frac{1}{3}$ poll. lata. *Capitula* 1–$1\frac{1}{4}$ poll. lata, bracteis longioribus involucrantibus brevior.

The erect flowering branches, often a foot in length, are so densely clothed with rigid spinescent leaves (more strictly bracts) as to resemble twigs of *Araucaria imbricata* or *A. Bidwillii*.—D. OLIVER.

Fig. 1. Floret. 2. Seta of pappus. 3. Stamens. 4. Apex of style. *All enlarged.*

PLATE 1462.

EUPATORIUM BALLII, *Oliv.*

COMPOSITÆ, Tribe EUPATORIACEÆ.

E. Ballii, *Oliv.* (*sp. nov.*); fruticosum, ramulis glanduloso-tomentellis, foliis lineari-ovalibus utrinque attenuatis obscure carnulatis margine vernatione plus minus revoluto supra rugulosis puberulo-hirtellis subtus tomentellis areolato-reticulatis, capitulis multifloris majusculis pedunculatis in cymis pleiocephalis terminalibus dispositis, bracteis involucri pluriseriatis exterioribus ovato-ellipticis acutis striatis parce piloso-tomentellis, interioribus oblongo- v. lineari-lanceolatis acuminatis disco paullo brevioribus, achæniis gracilibus 5-costatis glabris inferne angustatis, pappo uniseriato setaceo.

HAB. Near Chicla, Peruvian Andes, alt. 12–13,000 ft., *J. Ball* (1882).

Folia 1½–2 poll. longa, 3–5 lin. lata (in ramulis floriferis); petiolus brevis. *Capitula* plus minus ¾ poll. diam.; involucro campanulato bracteis rigidiusculis imbricatis.—D. OLIVER.

Fig. 1. Floret. 2. Seta of pappus. 3. Anther. 4. Style-branches. *All enlarged.*

PLATE 1463.

LOPHIOCARPUS BURCHELLII, *Hook. f.*

CHENOPODIACEÆ, Tribe CHENOPODIEÆ.

Lophiocarpus Burchellii, *Hook. f. in Gen. Pl.* iii. 50; frutex gracillimus glaberrimus, foliis acicularibus, spicis filiformibus, floribus minutis, perianthii segmentis 5 oblongis obtusis, staminibus 4, 3 segmentis oppositis quarto segmento opposito, ovario subgloboso, stigmatibus 4 per paria dispositis filiformibus, fructu late obovoideo paullo compresso costato.

HAB. South Africa, Klaarwater, *Burchell* (No. 1934); Bechuana country, *Dr. Em. Holub.*

Fruticulus ramosus, ramis ramulisque teretibus. *Folia* sparsa et

fasciculata, ½–¾ poll. longa, sessilia, teretia, subacuta, sicca flava. *Spicæ* 2–4 poll. longa. *Flores* $\frac{1}{12}$ poll. diam., fasciculati, sessiles; bracteæ floribus breviores, ovatæ persistentes; bracteolæ obtuse 3-lobæ. *Perianthii* segmenta 5, exteriora minora, suberecta, incurva. *Stamina* 4–5, situ subvaria, unico (ut videtur semper) segmento exteriore perianthii opposito, cetera segmentis alterna v. subalterna; filamentis perianthio longioribus filiformibus; antheræ parvæ, extrorsum dehiscentes. *Ovarium* ovoideum, substipitatum, stigmatibus per paria divaricatis. *Fructus* subglobosus, paullo compressus, perianthii segmentis longior, 8-costatus. *Semen* erectum, obovoideum, compressum; embryo fere annularis, radicula infera.

The genus *Lophiocarpus* of Turczanimow (Wallinia, *Moq. in DC. Prodr.* xii. pt. ii. 143) has hitherto consisted of two species, both South African,* of which the first known, *L. polystachyus*, has been collected by Drege alone, and is described as having 5 perianth-segments and as many stamens, characters repeated in the *Genera Plantarum*. In preparing the plate of the second species for this work, the artist, Miss Smith, pointed out to me that 4 was a prevalent number of its stamens, which induced me to examine many flowers of both species, with the result that 4 is a common number in both, and that they are irregularly inserted in both; as also that 4 unequal perianth-segments with 3 stamens occur in some of the upper flowers, at any rate of *L. polystachyus*. In both species, indeed, one segment is always smaller (and external, I think) to the others. Then, as regards the positions of the stamens, as a rule they are not symmetrically placed, one being always opposite the small perianth-segment, while the other three or four are approximately alternate with the other segments. This strong tendency to alternation of the staminal with the perianthial whorls, raises the question whether *Lophiocarpus* should not be transferred to *Phytolaccaceæ*, an order of which only two species (*Phytolacca stricta*, Hoffm., and *P. abyssinica*) have been found in South Africa. If it can be pointed out that there is any genus of that order to which it was at all allied, or even a tribe into which it could be placed, I should recommend its transference. As it is, however, it differs in most important characters from all those tribes—from *Rivineæ* in the embryo; from *Euphytolacceæ* in the solitary carpel with free stigmas; and from the Australian *Gyrostemoneæ* in the bisexual flowers and perianth. Under these circumstances *Lophiocarpus* will perhaps continue to be regarded as an anomalous member of the tribe *Chenopodieæ* of *Chenopodiaceæ*, with which it has most characters in common, whilst differing

* To these must now be added a fourth, which invalidates the generic character in being annual, in having minute erect stigmas and tubercled fruits without ribs. It may be thus characterised:—

L. tenuissimus, *Hook. f.* (*nov. sp.*); annua, foliis filiformibus, spicis gracillimis, floribus minimis, perianthii segmentis valde inæqualibus, stigmatibus minutis erectis, fructu obovoideo muricato. *Tab.* 1463, fig. 10, 11.

Hab. The Transvaal, at Pretoria, *Dr. A. Rehmann* (Herb. No. 4018).

in the abnormal position of the stamens relatively to the perianth-segments.—J. D. HOOKER.

Fig. 1. Diagram of flower. 2. Top of spike. 3. Flower bract and bracteoles. 4. Perianth laid open. 5. Ovary. 6. Fruit and perianth. 7. Fruit. 8. Seed. 9. Embryo. *All enlarged.*

PLATE 1464.

LORANTHUS RUBROVIRIDIS, *Oliv.*

LORANTHACEÆ.

L. rubroviridis, *Oliv.* (*sp. nov.*); ramulis tomentellis, foliis lanceolatis ovato- v. oblongo-lanceolatis obtuse acuminatis basi cuneatim in petiolo angustatis coriaceis utrinque scabrido-hirtellis, floribus umbellatis, umbellis pedunculatis axillaribus 15–18-floris bracteis ovalibus herbaceis involucratis, corolla fere a basi fissa 5-loba lobis involutis extus hirtellis, filamentis apicem versus leviter incrassatis apice geniculatim et abrupte constrictis, antheris oblongis apice connectivo obtuse et brevissime producto coronatis.

HAB. Zambesi, opposite Senna, Sir J. Kirk (1859, the plant figured). A variety of the same with much shorter bracts, Bechuana country, between Nagatatollo and Henry's-pan, *Dr. Holub.*

Ramuli annotini teretes, lenticellis tuberculatis rugulosi. *Folia* 3–4 poll. longa, 1–1½ poll. lata; petiolus 3–5 lin. longus. *Pedunculi* axillares, ½ poll. longi, tomentelli; pedicelli 1–1½ lin. longi; bracteæ ovales v. oblongo-ovales, 4–7 lin. longæ; bracteolæ 0. *Calyx* limbo angustissimo subintegro. *Corolla* rubra, ¾ poll. longa.—D. OLIVER.

Fig. 1. Bud and subtending bract. 2. Flower. 3–5. Stamens. 6. Ovary. *All enlarged.*

PLATE 1465.

ANTHOPTERUS WARDII, *Ball.*

VACCINIACEÆ.

A. Wardii, *Ball* (*sp. nov.*); suffrutex epiphyticus, glaberrimus, foliis alternis ovatis obtusiusculis subsessilibus basi rotundatis vel subcordatis, margine integerrimo subrevolutis, subtus elevatim nervosis, floribus 5–10 in racemo brevi subcorymbosis, pedunculis fere pollicaribus basi

bracteatis nudis, calyce cum pedunculo pulchre coccineo sub anthesi obconico late alato, alis in pedunculum decurrentibus, segmentis liberis ovato-triangularibus tubo subæquilongis venosis, corolla urceolata quinque-alata saturate rubra fauce constricto breviter dentata, filamentis connatis.

Hab. On trunks of trees in the forest near Buenaventura, coast of Columbia, *Ball*.

This beautiful plant, conspicuous from a distance owing to the brilliant red colour of the inflorescence, was obtained for me by my friend, Richard Ward, Esq., to whose assistance in collecting plants during a short excursion in the Peruvian Andes I feel much indebted. It was seen on the trunk of a tree about 40 feet high. It is widely different from *A. racemosus*, Hook., figured at tab. 243, vol. iii. of this work, and still more so from *A. mucronatus*, Benth., Pl. Hartw. p. 221. It is, however, nearly allied to a plant collected in Peru by Maclean, of which there is an unnamed specimen in the Kew Herbarium. Another specimen in the same collection from New Granada—No. 2716 of Triana's collection—is probably referable to the same species as Maclean's plant, but is in bad condition and scarcely determinable. In both the peduncles are much shorter than in the Buenaventura specimens; the wings of the calyx are less broad, and apparently not decurrent on the peduncle. Neither do they appear to be of the same brilliant red colour which the specimens have continued to communicate to the paper long after they have been thoroughly dry.—J. Ball.

Fig. 1. Corolla. 2, 3. Stamens, front and back. 4. Vertical section of ovary. *Enlarged.*

Plate 1466.

OIANTHUS BEDDOMEI, *Hook. f.*

Asclepiadeæ, Tribe Marsdenieæ.

Oianthus Beddomei, *Hook. f. in Fl. Brit. Ind.* iv. 49; frutex volubilis, ramulis petiolis pedicellisque patentim tomentosis, foliis longe petiolatis late ovatis acuminatis basi rotundatis v. subcordatis, nervis creberrime reticulatis, petiolo gracili, cymis brevissime pedunculatis multifloris, sepalis lanceolatis acuminatis, corolla disciformi, lobis centro disci minutis.

Deccan Peninsula; in the Beigvor forests, Wynaad, *Col. Beddome*. *Ramuli* graciles. *Folia* 4–5 poll. longa, 2–2½ poll. lata, brevissime in

petiolum 2–3-pollicarem angustata. *Cymæ* axillares, 10–12-flores; pedunculo robusto ⅛–¼ poll. longo, bracteolis minutis subulatis aucto, pedicellis ⅛–½ poll. longis. *Sepala* ciliata. *Corolla* ⅛ poll. diam., orbicularis, depressissima, peltiformis; lobi parvi, late triangulares, disco reflexi. *Columna* minuta, depressa, coronæ lobis late ovatis acuminatis, antherarum apicibus brevibus inflexis obtusis *Stigma* depresso-pentagonum.

In the 'Flora of British India' I adopted the unusual course of naming and describing a new plant from a drawing only, for the justification of which course I here produce a facsimile of the material, the specimens of which were, as Colonel Beddome informs me, unfortunately lost. This drawing, prepared evidently with great care under Colonel Beddome's eye, represents a most curious plant, undoubtedly referable to the remarkable genus *Oianthus* of Bentham, which, as I have stated in the 'Flora,' may possibly prove to consist of abnormally-flowered forms of *Heterostemma*, Wight & Arn.—J. D. Hooker.

Fig. 1. Cyme. 2. Back view of flower. 3. Corona and its processes. 4. Corolla seen from above. 5. Pollen-masses. 6. Calyx and ovary. 7. Vertical section of ovary. *All enlarged.*

Plate 1467.

ACROTOME INFLATA, *Benth.*

Labiatæ, Tribe Stachydeæ.

A. inflata, *Benth. in DC. Prodr.* xii. 436; herbacea, erecta, villoso-tomentosa, foliis petiolatis ovato-lanceolatis a medio ad apicem late crenato-serratis, verticillastris multifloris densis, bracteis anguste linearibus pilosis floribus paullo brevioribus, calycis dentibus 5 deltoideo-subulatis.

Hab. Zaurebergen, *Burke*; Transvaal and Bechuana country, *Dr. Holub.*

Folia 1½–2 poll. longa, ½–1 poll. lata, utrinque piloso-hirtella; petiolus ⅓–½ poll. longus. *Calyx* fructiferus tubulosus, basi turbinatus, ¾ poll. longus. *Corolla* tubum calycis æquans, labio superiore erecto obtuse bidentato, inferiore trilobato, lobo centrali majore rotundato antice crenulato. *Filamenta* pilosa; antheræ loculis divaricatis confluentibus.—D. Oliver.

Fig. 1. Flower. 2. Portion of tube of corolla with stamens. 3. Ovary and style. 4. Fruiting calyx. 5. Nut. *Enlarged.*

Plate 1468.

GOMPHOSTEMMA CHINENSE, *Oliv.*

Labiatæ, Tribe Prasieæ.

G. chinense, *Oliv.* (*sp. nov.*); stellato-tomentellum, caule erecto, foliis ellipticis v. ovato-ellipticis obtusis basi cuneatis rotundatisve longiuscule petiolatis, cymis plurifloris e basi caulis quasi radicalibus pedunculatis bracteatis, bracteis calycem æquantibus lanceolatis acuminatis intus glabratis extus stellato-tomentosis, calyce infundibulari 5-fido lobis lanceolatis acuminatis, corollæ tubo elongato exserto gracili superne leviter curvato infundibulari-dilatato ore bilabiato, labio superiore concavo subintegro inferiore trilobato, staminibus inclusis.

Hab. Amoy—interior, *Swinhoe*: Lo-fan-shan Mts., East River, *Rev. M. Faber*.

Caulis 1–2-pedalis obtuse tetragonus v. inferne subteres incano-tomentosus. *Folia* membranacea undulato-denticulata supra stellato-pubescentia cum pilis simplicibus sparsis, subtus reticulata cano-pubescentia. *Calyx* 4–6-lin. longa, stellato-pubescens. *Corolla* 2 poll. longa, glabrata v. puberula.—The specimen was communicated by Mr. Ford of the Hong Kong Gardens. A second Chinese species (*G. insuave*) is described by Hance (Lond. Journ. Bot., 1884, p. 231.) —D. Oliver.

Fig. 1. Fragment of leaf showing stellate and scattered simple hairs of upper surface. 2. Calyx and subtending bract. 3–4. Stamens. 5. Ovary.

Plate 1469.

GALIUM CRYPTANTHUM, *Hemsley.*

Rubiaceæ, Tribe Galieæ.

G. cryptanthum, *Hemsl.* (*sp. nov.*); perenne? sparse molliterque hirsutum, caulibus angulatis gracilibus, foliis breviter petiolatis, quaternis ovato-oblongis vel obovatis minute apiculatis trinerviis, floribus hermaphroditis minutissimis umbellulatis, umbellulis paucifloris inæqualiter bibracteatis pedunculatis, pedunculis folium sæpius subæquantibus, pedicellis fructu longioribus vel brevioribus, corollæ rotatæ

tubo brevissimo, lobis ovatis subobtusis, fructu glabro punctulato, mericarpiis oblongo-ovoideis. G. vernum, *Hook. f. in* Fl. Brit. Ind. iii. p. 209, non Scop.

HAB. Western Himalaya: Chumba, 9000 feet, *C. B. Clarke*; Jumnotri, 10–11,000 feet, *Duthie*.

Apparently a very distinct species, in inflorescence like *G. capitatum*. The name *cryptanthum* is given to it because the minute flowers develop with the leaves, and are only found in the uppermost whorl or two. It was referred, in the 'Flora of British India,' from a very imperfect specimen, to *G. vernum*, of which it has the habit and foliage.—W. B. HEMSLEY.

Fig. 1. A flower seen from above. 2. A flower seen from the side. 3. A pistil. 4. An umbel of fruit. 5. A fruit. 6. Vertical section of the same. *All the figures much enlarged.*

PLATE 1470.

APONOGETON HOLUBII, *Oliv.*

NAIADACEÆ, Tribe APONOGETONEÆ.

A. Holubii, *Oliv.* (*sp. nov.*); foliis oblongo-ellipticis apice breviter obtusiuscule acutatis basi rotundatis anguste cordatis petiolis elongatis, pedunculis crassiusculis, spatha caduca, spadice bipartito ramis apicem versus attenuatis multifloris, floribus hermaphroditis dense unilateraliter spicatis, bracteolis lateralibus 2 oblongis v. obovato-oblongis obtusis subæqualibus floribus paullo brevioribus, staminibus circ. 6, carpellis 3–6, seminibus 6–8 oblongis teretibus longitudinaliter 6–8 costatis.

HAB. Bechuana country, Henry's Pan, *Dr. E. Holub*.

Folia 5 poll. longa, 2 poll. lata, papyraceo-membranacea, venulis obscuris. *Spadix* ramis floriferis 2½ poll. longis, fructiferis accrescentibus 3–3½ poll. longis. *Flores* dense spicati. *Stamina* filamentis anguste lineari-subulatis; antheris rotundato-ellipticis inappendiculatis.—D. OLIVER.

Fig. 1. Two flowers and a portion of spadix. 2–3. Bracteolæ (perianth-leaves?). 4. Carpels. 5. Ovary, laid open. 6. Fruit-carpel. 7. Seed. 8. Embryo. *All enlarged.*

Plate 1471.

A. APONOGETON NATALENSE, *Oliv.*

B. APONOGETON REHMANNI, *Oliv.*

Naiadaceæ, Tribe Aponogetoneæ.

A. natalense, *Oliv.* (*sp. nov.*); foliis elongato- v. lineari-ovalibus acutis acuminatisve lamina utrinque angustata, spatha decidua, spadice bipartito ramis multifloris, floribus ☿ confertis 3–2-bracteolatis, bracteolis lineari-oblongis obtusis inæqualibus v. subæqualibus, staminibus 6–7, antheris late rotundatis apice basique emarginatis, carpellis sæpius 3.

Hab. Natal, York, *McKen*; between Karkloof and Umgeni, *Dr. Rehmann* (No. 7429).

Folia 3–6 poll. longa, ½–⅔ poll. lata. *Spadix* bifurcatus, ramis ⅔–1½ poll. longis.—D. Oliver.

A. Rehmanni, *Oliv.* (*sp. nov.*), foliis oblongo-ovalibus acutiusculis subapiculatisve, spadice bipartito ramis dense floriferis, floribus dioicis (♀ tantum notis), bracteolis ovato-oblongis acutiusculis, carpellis 8–9 pauciovulatis fructiferis mono- (v. di-) spermis, seminibus oblongis ut videtur ecostatis.

Hab. Transvaal, Boshveld, *Dr. Rehmann* (No. 4835).

Folia 1–1⅔ poll. longa, 3–5 lin. lata. *Spadix* bifurcatus, ramis circ. ⅔ poll. longis.—D. Oliver.

A. Fig. 1. Flower and bracteoles. 2. Carpel. 3. Ovary, laid open. 4. Fruit-carpel. 5. Seed.
B. Fig. 1. Flower and bracteoles. 2. Carpel. 3. Fruit-carpel. 4. Seed. 5. Embryo. *All enlarged.*

Plate 1472

GOMPHOSTIGMA INCANUM, *Oliv.*

Loganiaceæ.

G. incanum, *Oliv.* (*sp. nov.*); suffrutex incanus divaricato-ramosus, foliis oppositis et in axillis congestis parvis ellipticis ovalibusve dense stellato-lepidotis, racemis terminalibus, floribus oppositis glabris bracteatis, bracteis late ovatis pedicello brevioribus, calyce 4-fido lobis ovatis

obtusis tubo corollæ duplo brevioribus, corolla 4-fida lobis obovatis integris, staminibus exsertis antheris deinde recurvis.

HAB. South Africa, Colesberg, near the Orange River, *W. Knobel.*

Frutex divaricatus, ut videtur ½–1-pedalis. *Folia* 1–2 lin. longa. *Flores* diam. fere ½ poll. *Capsula* (immatura) exserta, ovoidea, retusa v. emarginata.

Very different in appearance from the old species, *G. scoparioides*, Turcz., with linear leaves and virgate habit.—D. OLIVER.

Fig. 1. Lepidote squamæ of leaves. 2. Bud. 3. Corolla laid open. 4–5. Anther, back and front. 6. Pistil. 7. Transverse section of ovary. 8 Young fruit. *All enlarged.*

PLATE 1473.

NORTHEA SEYCHELLANA.

SAPOTACEÆ.

Northea, *Hook. f.* (*gen. nov.*). *Calyx* profunde 6-lobus, lobis 2-seriatis, 3–4 exterioribus majoribus ovatis obtusis, 2–3 interioribus trulliformibus. *Corolla* tubuloso-campanulata, 6-loba, lobis integris imbricatis obtusis brevissime unguiculatis basi utrinque appendiculis minutis laceris setiformibusve auctis. *Stamina* 6, lobis corollæ opposita, filamentis latiusculis compressis apicibus recurvis; antheræ dorsifixæ, ovato-oblongæ, obtusæ, rimis lateralibus dehiscentes; staminodia 0. *Ovarium* conico-ovoideum, angulatum, villosum, in stylum elongatum glabrum attenuatum, 6-loculare, stigmate punctiformi. *Frutex* magnus. *Semina* magna, oviformia, testa crasse crustacea nitida, hilo maximo deraso osseo; embryo amygdalinus, exalbuminosus.—Arbor *elata, ramulis crassissimis nodosis.* Folia *breviter crasse petiolata, anguste oblonga, obtusa v. retusa, crasse coriacea, supra nitida pilis furcatis, subtus ferrugine—tomentella, costa crassa, nervis creberrimis tenuissimis horizontalibus.* Flores *ad nodos ramulorum fasciculati, ebracteati et ebracteolati, breviter pedicellati, unacum pedicellis tomentellis.* Calyx *crasse coriaceus.* Corollæ *lobi exserti.* Semina *magnitudine ovi gallinacei.*

N. seychellana, *Hook. f.* (*species unica*). Mimusops? Horneana, *Hartog in Journ. Bot.* 1879, 358 (name only).

HAB. Three Brothers Island, Seychelle Archipelago, *Horne*; *Miss North.* Vernac. name 'Capucin.'

Arbor 60–80-pedalis, umbrosa, speciosa. *Ramuli* crassitie pollicis humani, cortice fusco-brunneo tecti, nodosi, nodis situs florum et fructuum indicantibus. *Folia* versus apices ramulorum inserta, pedalia

ad bipedalia, 3–5 poll. lata, sicca dura, basi in petiolum ¼–1½-pollicarem angustata. *Calyx* ½ poll. longus, lobis erectis. *Corollæ* tubus calyce æquilongus, glaber; lobi patentes, ovati, obtusi, dorso tomentelli. *Stamina* petalis breviora; antheræ filamentis subæquilongæ. *Stylus* calyce longior. *Fructus*, integer a nobis non visus.

This noble tree is noticed in Baker's 'Flora of Mauritius and the Seychelles' as probably a sixth species of the genus *Sideroxylon* (p. 194), of which leaves were sent by Mr. Horne, but flowers were wanting. It was subsequently alluded to by Mr. Hartog in a paper entitled 'Notes on Sapotaceæ,' published in the 'London Journal of Botany' as a doubtful *Mimusops*. Nothing further was known of it till the return of Miss North from the expedition she made to the Seychelles for the purpose of adding views of its principal trees, &c., to the unique gallery of portraits of plants in their homes, with which she has so munificently endowed the establishment at Kew, when, amongst other treasures, she brought with her a painting of the foliage and fruit of the Capucin, and made arrangements for flowers being sent home when these should appear. These, which she kindly transmitted to Kew, have enabled me to determine that the Capucin is neither a *Sideroxylon* nor a *Mimusops*, but very near to the large genus *Chrysophyllum*, from which it differs in the biseriate lobes of the calyx; and I have hence the satisfaction of dedicating the new genus to the accomplished lady to whom the public are so deeply indebted.—J. D. Hooker.

Fig. 1. Diagram of flower. 2. Hair from leaf. 3. Two inner and one outer lobe of calyx. 4. Back view of three corolla-lobes. 5. Corolla laid open. 6 and 7. Stamens. 8. Ovary and pedicel. 9. Transverse section of ovary. 10. Seed. *All but fig.* 10 *enlarged.*

Plate 1474.

IPOMÆA SHIRENSIS, *Oliv.*

Convolvulaceæ.

I. shirensis, *Oliv.* (*sp. nov.*); frutex scandens, ramulis puberulis tomentellisve, foliis cordiformibus obtusis obtusiusculis mucronatis integris supra pubescentibus deinde glabratis subtus appresse canotomentosis, floribus in paniculis folio longioribus multifloris axillaribus dispositis, sepalis sericeo-tomentosis ellipticis obtusis accrescentibus persistentibusque, corolla lilacina infundibulari calyce duplo longiore, calyce fructifero capsulam monospermam dense tomentosam globosam 2–3-plo superante.

Hab. Zambesi, 2–4,000 ft. alt., and near Lake Shirwa, *Sir J. Kirk*; Shiri highlands, *Mr. Buchanan* (No. 262).

Folia 2½–3 poll. lata; petiolus 1–2 poll. longus. *Paniculæ* 5–10 poll. longæ; pedicelli fructiferi ad ½–¾ poll. longi. *Flores* ¾–1 poll. longi, lilacini. *Calyx* fructiferus ½–¾ poll. longus.—D. Oliver.

Fig. 1. Base of corolla-tube and stamens. 2. Pistil and disk. 3. Transverse section of ovary. *All enlarged.*

Plate 1475.

HOLUBIA SACCATA, *Oliv.*

Pedalineæ, Tribe Pedalieæ.

Holubia, *Oliv.* (*gen. nov.*). *Calyx* 5-partitus, segmentis subulatis. *Corolla* tubo postice profunde saccato-gibboso superne angustato, ore in limbo amplo obliquo 5-lobato leviter bilabiato expansa, lobis 2 superioribus paullo minoribus. *Stamina* didynama, inclusa, antherarum loculis subparallelis v. apice conniventibus, connectivo glandula depressa coronato; stamen posticum ad staminodiam reductum. *Ovarium* in disco obliquo carnoso impositum, liberum, lateraliter compressum marginibus utrinque bicarinatis, ovulis in quoque loculo circ. 8 biseriatis; stylus elongatus gracilis; stigma bilamellatum, lobis ovatis. *Fructus* . . . .—Herba, *foliis oppositis petiolatis palmatilobulatis.* Flores *axillares, solitarii, breviter pedunculati.*

H. saccata, *Oliv.* (*sp. unica*). *Folia* deltoideo-cordiformia sinuato-lobulata sæpe leviter trilobata lobis obtusis, glabrata, 1¼–1½ poll. lata atque longa; petiolus ¾–1¼ poll. longus. *Flores* 3–3½ poll. longi, corollæ limbus 1¾ poll. latus; pedunculi ⅛–¼ poll. longi.—D. Oliver.

Hab. Transvaal, *Mr. Todd* (communicated by Rev. J. Buchanan); Marika district, *Dr. Holub.*

Fig. 1. Calyx and pistil. 2. Stamens, and their insertion. 3–4. Anthers, back and front. 5. Ovary and disk. 6. Longitudinal section of ovary. 7. Transverse section of same.

ICONES PLANTARUM.

Plate 1476.

DIOSMA FLAVESCENS, *Oliv.*

Rutaceæ, Tribe Diosmeæ.

D. flavescens, *Oliv.* (*sp. nov.*); glaberrima, fastigiatim ramosa, ramulis strictis gracilibus, foliis erectis linearibus obtusiusculis canaliculatis dorso convexis vix carinatis internodiis sæpe duplo longioribus, floribus in cymulis paucifloris (1–4-floris) terminalibus dispositis, subsessilibus, calycis lobis ovatis acutiusculis minutissime ciliolatis dorso subcarinatis, petalis calyce duplo longioribus obovato-ellipticis obtusis, staminibus corolla brevioribus, antheris glandula capitata sessili terminatis.

Hab. Cape of Good Hope, Tulbagh, near Ceres, *H. Bolus* (Herb. No. 5317).

Frutex verosimiliter 1½–2-pedalis, internodiis lævibus. *Folia* 2–3 lin. longa, alterna. *Flores* 2 lin. lati. *Cocci* ¼ poll. longi, breviter et obtuse oblique apiculati. *Semina* testa nigra tenuiter crustacea, 2–2½ lin. longa.—D. Oliver.

Fig. 1. Leaf. 2. Flower. 3. Petal. 4. Calyx and disk. 5. Stamen. 6. Pistil. 7. Fruit. 8. Seed. 9. Embryo. *Enlarged.*

Plate 1477.

ALYSSUM SAMARIFERUM, *Boiss. and Haussk.*

Cruciferæ, Tribe Alyssineæ.

A. samariferum, *Boiss. and Haussk.* in Boiss. Fl. Orient. i. 272; frutescens, ramorum sterilium foliis confertis linearibus acutiusculis basi angustatis conduplicatis lepidoto-argenteis, ramis floriferis erectis glabratis cum foliis sparsis strictiusculis, racemis fructiferis contractis, siliculis amplis orbiculatis v. obovato-rotundatis stylo brevi apiculatis planis glabris pedicello patenti-reflexo sæpius longioribus, seminibus compressis apteris.

Hab. Berytdagh, Cataonia, 6,000–8,000 ft. (*Haussk.* Iter Syriaco-Armen.); El Jebel el Ahmar, No. Syria, *Dr. Post.*

Fruticulus 1–1½ pedalis. *Folia* ¾–1 poll. longa, 1–2 lin. lata. *Siliculæ* 5–7 lin. longæ atque latæ.—D. Oliver.

Fig. 1. Leaf. 2. Lepidote hair. 3. Silicule. 4. Seed. 5. Embryo. *Enlarged.*

Plate 1478.

ÆTHIONEMA SPICATUM, *Post.*

Cruciferæ, Tribe Lepidineæ.

A. spicatum, *Post* (*sp. nov.*), caulibus tortuosis inferne rubro-suberosis, foliis obovatis truncatis vel retusis superioribus oblongis acutis, floribus . . . ., racemo fructifero dense imbricato ovato-oblongo, siliculis orbicularibus basi et apice retusis, alis loculis æquilatis, stylo sinu multo breviore.

Hab. El Jebel el Ahmar, 2,800–3,200 ft. (in pinetis), No. Syria, *Dr. Post.*

Fruticulus 6–10 poll. altus, ramulis fragilibus. *Folia* opposita carnosula ⅓ poll. longa. *Spicæ* fructiferæ ½–1 poll. longæ, ½ poll. latæ. *Siliculæ* alis pallide carneis viridicantibus.—G. E. Post.

Fig. 1. Silicule. 2. Replum with valve removed. 3. Embryo. *Enlarged.*

Plate 1479.

CRATEROSTIGMA NANUM, *Benth.* var. ? elatior.

Scrophulariaceæ, Sub-tribe Vandelliæ.

anum, *Benth. in Gen. Plant.* ii. 954, var. ? elatior; foliis radica-
osulatis ovato-lanceolatis oblanceolatisve obtusis v. obtusiusculis
olum latiusculum angustatis faciebus parce pilosulis glabrisve
, scapo elongato ($\frac{1}{2}$–1 pedali) erecto pilosulo panci- v. plurifloro
, bracteis erectis oblongis, pedicellis erectis flore subæquilongis,
hirtello.

. Transvaal at Mac Mac, *C. Mudd* (flowers 'rose, tinged with
'); Houtbosh, *Dr. Rehmann*, No. 5979.

$\frac{3}{4}$–1$\frac{1}{4}$ poll. longa, tenuiter coriacea, nervis obsoletis. *Corolla*
lycem superante v. æquante, limbo $\frac{1}{2}$ poll. lato.
r be wrong in supposing this a variety of *C. nanum*, of which we
ly two dwarf examples collected by Drège; but from a general
the allied tropical forms I can well believe this species to be
tly variable to include this tall form with pedicelled flowers.—
ER.

. Flower. 2. Posterior lip of corolla. 3. Stamens. 4. Pistil. 5. Stigma.

Plate 1480.

TRICHOCLADUS GRANDIFLORUS, *Oliv.*

Hamamelideæ.

randiflorus, *Oliv.* (*sp. nov.*); frutex ramosus, ramulis glabratis
s stellato-puberulis, foliis alternis tenuiter coriaceis ovato-
latis acuminatis glabris reticulatis petiolatis, inflorescentia
ali v. axillari breviter pedunculata, floribus capitatim congestis
r spicatisve subsessilibus v. brevipedicellatis, calycis limbo
tione clauso mox 3- v. 2-fido intus glabro extus pilis ferrugineis
s sparsis pubescente.

. Transvaal, 'Berg Plateau,' *C. Mudd.*

Frutex 4–10 pedalis. *Folia* 2¼–3 poll. longa, ⅔–1¼ poll. lata; petiolus ¼ poll. longus. *Alabastra* obovoidea. *Petala* plana, elongato linearia, ¾–1 poll. longa, 1½–2 lin. lata. *Stamina* calyce breviora; antheræ apiculatæ filamento sæpius longiores. *Ovarium* apice hirsuto libero.

A very interesting addition to our knowledge of a small but interesting Natural Order, which I leave in *Trichocladus*, notwithstanding the difference in the calyx and the depth of adhesion of the ovary, which differences bring it very near to the Malayan genus *Maingaya*. I have not seen any fruit of *T. grandiflorus*. With a further knowledge of Malayan and perhaps South African members of this Order, a consolidation of some of the linear-petalled genera may become advisable.—D. Oliver.

Fig. 1. Bud. 2. Calyx. 3. Stellate hairs of same. 4, 5. Stamens. 6. Ovary and base of calyx-tube. 7. Vertical section of same. *Enlarged.*

Plate 1481.

GARNOTIA POLYPOGONOIDES, *Munro.*

Gramineæ, Tribe Tristegineæ.

G. polypogonoides, *Munro, MSS. in Herb. Kew.*; erecta v. decumbens, foliis anguste linearibus basin versus laminæ pauce et longe pilosis, panicula sæpius racemiformi moderate effusa, spiculis sæpius geminatis inæqualiter pedicellatis basi pilis paucis adscendentibus cinctis, glumis exterioribus vacuis trinerviis anguste lineari-lanceolatis in aristam gracilem productis, gluma tertia subenerve apice aristata, bifida, arista inter lobos tenui elongata flexuosa.

Hab. East India, Nepal (Wall. Cat. 8884), Sikkim and the N.W. Himalaya; also in Wight's Herbarium unlocalised.

Caulis gracilis 1–1½ pedalis, nodis glabris pilosisve. *Folia* plana v. complicata, glabra v. cum pilis sparsis præcipue versus basin et faucem vaginarum. *Panicula* 3–6 poll. longa, strictiuscula, ramis erectis, primariis solitariis e basi ramosis. *Glumæ* exteriores vacuæ longe aristatæ; arista gracillima gluma 2–4-plo longior.—D. Oliver.

Plate 1482.

CALLILEPIS SALICIFOLIA, *Oliv.*

Compositæ, Sub-tribe Buphthalmeæ.

ifolia, *Oliv.* (*sp. nov.*); herbacea 1–2-pedalis, glabra, caulibus ngitudinaliter valide striatis, foliis alternis adscendentibus lineari-ovalibus utrinque attenuatis acutissimis remote ser-ninerviis, capitulis solitariis terminalibus pedunculatis, in-acteis pauci-seriatis subæqualibus linearibus v. lineari-lanceo-inatis.

Sabia River, South Africa, *C. Mudd.*

–3 poll. longa, superiora gradatim minora atque angustiora $\frac{1}{6}$ poll. lata. *Capitula* circ. $1\frac{1}{2}$ poll. diam., floribus radii lisci purpureis; ligulis involucro duplo longioribus. *Paleæ* tæ acuminatæ floribus disci paullo breviores. *Pappus* paleis nceolatis rigide acuminatis carinatis, carina anguste alata, ilongis.—D. Oliver.

C. leptophylla, Harv.; the capitula similar, but different in

lay-floret. 2. Disk-floret. 3, 4. Paleæ of receptacle. 5. Stamens. *Enlarged.*

Plate 1483.

SENECIO SEGMENTATUS, *Oliv.*

Compositæ, Tribe Senecionideæ.

entatus, *Oliv.* (*sp. nov.*); erectus foliosus, foliis reniformi- sessilibus amplexicaulibus carnosulis integris cartilagineo- glabris glaucescentibus internodiis longioribus, inflorescentia ampla divaricatim ramosa, bracteis ovatis v. ovato-lanceolatis pitatis pauci- (5–7) floris, ecalyculatis, discoideis, luteis.

Natal, 1,000 ft., *J. M. Wood*, No. 1935.

Herba verosimiliter 2–4-pedalis glaberrima glaucescentia. *Folia* numerosa marginibus breviter decurrentibus, 1–1½ poll. longa, 2–3 poll. lata. *Capitula* pedunculata; involucrum 5–6-phyllum campanulato-tubulosum, squamis lineari-oblongis acutiusculis æquilongis, interioribus membranaceo-marginatis, flores subæquantibus. *Corolla* glabra, tubo cylindrico limbo campanulato 5-fido.

With the habit, though with very different leaves, of *Othonna amplexicaulis*, Thunb., and its allies; but involucral scales distinct.—D. Oliver.

Fig. 1. Capitulum. 2. Floret. 3. Seta of pappus. 4. Stamens. 5. Style-branches. *Enlarged.*

Plate 1484.

TRYPHOSTEMMA HANNINGTONIANUM, *Mast.*

Passifloraceæ.

T. Hanningtonianum, *M. T. Masters* (in Report on Mr. Johnston's Kilimanjaro plants, *ined.*); herbaceum scandens cirriferum glaberrimum glaucescens; foliis petiolatis tripartitis segmentis oblanceolatis oblongisve mucronulatis, stipulis angustissimis, pedunculis folio subæquilongis rectiusculis 2–1-floris cirriferis, pedicellis gracillimis, sepalis oblongis obtusis, petalis calyce brevioribus, corona gamophylla breviter cylindracea ore longe fimbriata, margine tubi denticulis minutis inflexis ornato, filamentis basi faciei interiori disci hyalini hypogyni annulati adnatis.

Hab. Kwa Chiropa, E. Trop. Africa, *Rev. J. Hannington*; Maungu, *H. H. Johnston*; Mainland W. of Zanzibar, *J. T. Last.*

Folia 1–1¾ poll. longa, in ramulis floriferis interdum multo minora, membranacea, lobis lateralibus interdum lobulo dentiforme munitis. *Flores* ¼ poll. lati. *Stamina* inclusa. *Styli* 3 graciles ovario æquilongi. *Fructus* pericarpio tenuiter chartaceo, ovoideus 6–8 lin. longus.

The nearest ally of this pretty miniature Passion-flower is *T. zanzibaricum* M. T. M., an entire-leaved species.—D. Oliver.

Fig. 1. Flower. 2. Same, calyx and petals removed. 3. Part of corona. 4. Stamen and portion of annular disk. 5. Pistil. 6. Transverse section of ovary. *Enlarged.*

PLATE 1485.

ONCOBA LASIOCALYX, *Oliv.*

BIXACEÆ.

O. lasiocalyx, *Oliv.* (*sp. nov.*); ramulis puberulis glabratis ultimis stipulis rigidiusculis persistentibus vaginatis, foliis petiolatis obovato-ellipticis obtusis basi cordatis truncatisve, denticulo-serrulatis utrinque fulvo-pubescentibus, pedunculis 1–3 floris bracteatis, calyce tripartito segmentis intus glabris extus setis mollibus pubescentibus crinitis, petalis pluribus calyce longioribus, antheris elongato-linearibus basifixis, ovario crinito.

HAB. Kilwa, E. Trop. Africa, *Sir J. Kirk.*

Folia 2–3 poll. longa; 1½–2 poll. lata, costa nervisque lateralibus subtus conspicuis; petiolus hirtellus ½–¾ poll. longus. *Stipulæ* lineari-lanceolatæ v. oblongæ acuminatæ pubescentes coriaceæ 3–5 lin. longæ. *Flores* 1–1½ poll. diam. pedicellati. *Petala* oblanceolato-oblonga, extus pilosa. *Stamina* parce pilosula; antheræ anguste lineares filamento gracili sæpius longiores. *Ovarium* 1-loculare placentis 3 parietalibus multiovulatis; stylus gracilis; stigma minutum.

Remarkable in the softly setose calyx and ovary. Allied to *O stipulata*, Oliv.—D. OLIVER.

Fig. 1. Stamens. 2. Pistil. 3. Transverse section of ovary. *Enlarged.*

PLATE 1486.

HYOBANCHE ATROPURPUREA, *Bolus.*

SCROPHULARIACEÆ, Sub-tribe HYOBANCHEÆ.

H. atropurpurea, *Bolus* (*sp. nov.*); herba parasitica, aphylla, minute glanduloso-pubescens, 3–4-pollicaris. Spica subterminalis. Bractea oblonga vel linguæformis, obtusa, undulata, apice patens; bracteolæ duæ lineares acuminatæ erecto-patentes, omnes 2 cm. longæ. Calyx æqualiter partitus venosus, bracteolis æquilongus, segmentis lineari-lanceolatis acuminatis tubo triplo longioribus. Corolla cucullata, ore obovato late aperto, lobis lateralibus triangularibus, antico subulato;

venosa, 2·5 cm. longa. Stylus apice breviter bilamellatus, stigmatoso-incrassatus. (*v. v.*)

Hab. In clivis saxosis montis Tabularis pone Klassenbosch, alt. circa 300 metr. mense Dec. legit *Hugh Welby* (anno 1884), *H. Bolus* No. 4987 *in Herb. Kew.*

This is quite distinct from *H. sanguinea*, Thunb., the only species hitherto known, by its oblong tongue-shaped bracts; its acuminate bracteoles; its equally divided calyx, with lanceolate acuminate segments; its differently shaped corolla; its indumentum; and to some extent probably also in habit, for the only specimen we possess at present has the upper bracts empty. The upper part of the flower and bracts is a deep claret red, shading off below into rose, with yellow at base. Mr. Welby found two specimens, but unfortunately lost one, and a search for more was unavailing by reason of a large bush-fire which immediately succeeded.

I have never seen the glabrous var. of *H. sanguinea* referred to by Bentham (DC. Prodr. x. 506), and described by Presl (Epimel. Bot. p. 249) as a new genus under the name *Hæmatobanche*. Bentham, who in the earlier work above quoted was inclined to think it might prove to be a distinct species, came to the conclusion later (Gen. Plant. ii. 968), that it was nothing more than a glabrous form of *H. sanguinea*. It is sufficient to compare Presl's full description with our plant to recognise their considerable differences.—H. Bolus.

Fig. 1. Flower with bract and bracteoles. 2. Corolla and calyx. 3. Calyx, laid open. 4. Corolla. 5. Same laid open. 6, 7. Stamens. 8. Pistil: (*a*) anterior, (*b*) posterior, (*c*) oblique view of stigma. 9. Section of ovary. *Enlarged.*

Plate 1487.

BEGONIELLA ANGUSTIFOLIA, *Oliv.*

Begoniaceæ.

B. angustifolia, *Oliv.* (*sp. nov.*); caulibus gracilibus glabrati, foliis distichis breviter petiolatis elongato- vel lineari-lanceolatis acuminatis duplicato-serratis, nervo medio supra appresse setuloso setisque in lamina utrinque 7–10 exceptis glabris, perianthio exteriore bilobato lobis retusis, interiore brevissimo (fl. ♂) stamina æquante.

Hab. Novita, New Granada, *R. B. White.*

Folia 3–5 poll. longa, 6–11 lin. lata; petiolus 1–2 lin. longus. *Stipulæ* membranaceæ lanceolatæ acuminatæ erectæ petiolo longiores, 2–5 lin. longæ. *Flores* coccinei, $\frac{2}{3}$ poll. longi. *Antheræ* 4 obovatæ emarginatæ, connectivo inter loculos membranaceo. *Stigma* inæqualiter multifidum.

A very distinct species in foliage from those which I have previously described; sent us by the discoverer of the genus, Mr. White, who describes the leaves as of a transparent vivid emerald green, setæ pink, bracts white, and flowers scarlet.—D. Oliver.

Fig. 1. Staminate flower laid open, showing inner perianth (corolla). 2. Stamens of same. 3. Detached anther. 4. Pistillate flower, the perianth removed. 5. Multifid stigma. *Enlarged.*

Plate 1488.

HYMENODICTYON PARVIFOLIUM, *Oliv.*

Rubiaceæ, Tribe Cinchoneæ.

H. parvifolium, *Oliv.* (*sp. nov.*); ramulis divaricatis ultimis hornotinis puberulis, foliis oblanceolato-ellipticis oblanceolatisve obtusis basi in petiolum angustatis glabris tenuiter coriaceis, paniculis thyrsoideis terminalibus multifloris, sessilibus, floribus breviter pedicellatis, pedunculis pedicellisque puberulis, calycis limbo 5–6-partito segmentis lineari-subulatis ovario subbrevioribus, corollæ tubo glabro superne abrupte dilatato breviter 5–6-dentato lobis incrassatis incurvis.

Hab. Mombasa, E. Trop. Africa, *Rev. Thomas Wakefield.*

Folia 1–1½ poll. longa, $\frac{2}{3}$–$\frac{3}{4}$ poll. lata, venulis obsoletis; petiolus $\frac{1}{4}$–$\frac{1}{2}$ poll. longus. *Stipulæ* ovatæ deciduæ. *Flores* congesti $\frac{1}{4}$ poll. longi. *Capsula* oblongo-ellipsoidea $\frac{2}{3}$ poll. longa. *Semina* ala reticulata circumdata.

In this species the flowers are thyrsoid as in Privet; in the other tropical African species they are spicate.—D. Oliver.

Fig. 1. Flower. 2. Same, corolla removed. 3. Corolla, laid open. 4. Vertical section of ovary. 5. Seed.

Plate 1489.

TURRÆA WAKEFIELDII, *Oliv.*

Meliaceæ.

T. Wakefieldii, *Oliv.* (*sp. nov.*); foliis papyraceis petiolatis rhomboideo-ellipticis obovatisve breviter obtusiuscule apiculatis basi cuneatis glabratis, floribus in cymis umbelliformibus axillaribus subsessilibus 3–9-floris, breviter pedicellatis, calycis pubescentis campanulati 5-dentati dentibus deltoideis, petalis elongato-linearibus extus minutissime puberulis, tubo stamineo apice 20-fido laciniis linearibus antheris apiculatis 2–3-plo longioribus, ovario tomentoso basi disco annulato circumdato circ. 12-loculare.

Hab. Mombasa, E. Trop. Africa, *Rev. Thomas Wakefield.*

Ramuli primum puberuli dein glabri. *Folia* 3–3½ poll. longa, 1½–2 poll. lata; petiolus ½ poll. longus. *Pedicelli* calyce 2–3-plo longiores pubescentes. *Flores* 2 poll. longi. *Stylus* longe exsertus.

Related to *T. Vogelii*, Hook. f., differing in the leaves and subsessile very much longer flowers.—D. Oliver.

Fig. 1. Bud. 2. Staminal column, laid open. 3. Anther and teeth of same. 4. Ovary and disk. 5. Stigma. 6. Transverse section of ovary. *Enlarged.*

Plate 1490.

A. POLYGONUM PERPUSILLUM, *Hook. f.*

B. POLYGONUM ACAULE, *Hook. f.*

Polygonaceæ, Tribe Eupolygoneæ.

P. (Bistorta) perpusillum, *Hook. f.* (*sp. nov.*); glaberrimum, rhizomate crasso, foliis radicalibus subsessilibus linearibus obtusis marginibus revolutis enerviis caulinis subsolitariis, scapo gracillimo, floribus capitatis cernuis 2–3-andris, nuce trigona v. biconvexa stylis elongatis.

Hab. Alpine Himalaya, alt. 14–15,000 ft.; Garwhal and Kumaon, *Strachey and Winterbottom, Duthie*; Sikkim, *J. D. Hooker.*

ubcæspitosum: **rhizoma breve**, crassitie pennæ anserinæ, simplex divisum, vestigiis **ochrearum coronatum**. *Folia* **pauca, pollicaria,** $\frac{1}{10}$ poll. lata, **coriacea, marginibus** sæpius ad costam revolutis. *ipus* 1-2-pollicaris. *Capitulum* globosum, pauciflorum, floribus dicellatis $\frac{1}{16}$ poll. **longis, albis** v. roseis, sæpius 4-fidis, lobis ellipticolongis obtusis **inæqualibus**. *Stamina* **perfecta 2–3, inclusa,** stamidiis totidem **alternantia**. *Styli* ima basi connati.

A very distinct little species, the smallest of the genus known to me, arest to P. *sphærostachyum*, Wall., having like it drooping flowers. -J. D. HOOKER.

P. (Aconogonon) acaule, *Hook. f.*; humile, dioicum, laxe hirsutum, izomate multicipiti, foliis breviter petiolatis oblongis obtusis utrinue molliter hirsutis, scapo erecto nudo v. unifoliato, floribus minutis ı ramos brevis paniculæ elongatæ erectæ dense congestis perianthii labri subglobosi segmentis 4–5 intimis rotundatis, staminibus 5 revibus, nuce trigona substipitata, stylis 3 brevibus, stigmatibus simlicibus.

HAB. Sikkim Himalaya; alt. 16–17,000 ft., *J. D. Hooker*.

Rhizoma descendens, elongatum, lignosum, 3–5-pollicare, ramis revibus erectis basi vestigiis ochrearum tectis. *Folia* ad apices ımorum rhizomatis fasciculata, patula, pollicaria, longe patula molter hirsuta, nervis inconspicuis demum superne impressis. *Scapus* –3-pollicaris, robustus, paniculam laxam erectam angustam gerens. *Flores* $\frac{1}{20}$ poll. diametro, cernui, fusco-purpurei; pedicello brevi infra erianthium incrassato. *Perianthii* segmenta inæqualia. *Antheræ* ıinutæ. *Nuæ* inclusa, pallida, angusta, angulis obtusis.

A very singular little species, most nearly allied to *P. sibiricum*, and ıe most reduced form of the section *Aconogonon*.—J. D. HOOKER.

A. Fig. 1. Leaf and stipule. 2. Diagram of flower. 3. Perianth, laid open. Ovary. 5. Fruit. *All enlarged.*
B. Fig. 1. Diagram of flower. 2. Male flower. 3. Stamen. 4. Female flower. Young fruit. 6. Mature ditto. *All enlarged.*

PLATE 1491.

ANEMONE THOMSONI, *Oliv.*

RANUNCULACEÆ, Tribe ANEMONEÆ.

A. (§ **Pulsatilloides**) **Thomsoni**, *Oliv. in Journ. Linn. Soc. Bot.* xxi. 97; foliis longiuscule petiolatis triternatim sectis segmentis cuneatobovatis lobulis ultimis obtuse acutatis paginis glabratis parce ciliatis, etiolo gracili glabro, scapis 1–2-pedalibus gracilibus parce pilosulis,

involucro 2-partito segmentis trifidis lobis linearibus, pedunculo apice dense piloso, sepalis 14–20 linearibus v. oblongo-spathulatis extus parce pilosulis glabratisve, carpellis (floriferis) dense hirsutis.

Hab. Kilimanjaro, 9–10,000 ft., *Mr. J. Thomson*; 9–13,000 ft., flower 'white tipped with pink,' *H. H. Johnston*.

Near *A. capensis*, which has bifid acutely pointed narrower leaf-lobes. The genus is new to the Tropical African Flora.—D. Oliver.

Fig. 1. Stamen. 2, 3. Back and front of carpel. *Enlarged*.

Plate 1492.

UEBELINIA ROTUNDIFOLIA, *Oliv.*

Caryophyllaceæ, Tribe Sileneæ.

U. rotundifolia, *Oliv. in Journ. Linn. Soc. Bot.* xxi. 397; foliosa procumbens, caulibus pilis reflexis seriebus duabus longitudinaliter hirsutis, foliis ($\frac{1}{4}$ poll. latis) suborbiculatis mucronulatis scaberulis sublævibusve setuloso-ciliolatis crassiusculis subsessilibus v. breviter latiuscule petiolatis, floribus quasi axillaribus folio brevioribus solitariis, calyce 5-fido lobis ovatis apiculato-acutatis, petalis lineari-spathulatis calyce sublongioribus, staminibus 9–10, ovario ellipsoideo, stylis 5–4 distinctis, seminibus paucis (4–5).

Hab. Kilimanjaro, 9–10,000 ft., *Mr. J. Thomson*.

A very interesting addition to the hitherto monotypic genus to which it is here referred, notwithstanding the difference in the number of stamens. How many are normally antheriferous I cannot be sure without additional material.—D. Oliver.

Fig. 1. Pair of leaves. 2. Flower. 3. Petal. 4. Stamens. 5 Pistil. *Enlarged*.

Plate 1493.

STRUTHIOLA THOMSONI, *Oliv.*

THYMELACEÆ.

S. Thomsoni, *Oliv. in Journ. Linn. Soc. Bot.* xxi. 404; frutex, ramis erectis pilosulis superne dense foliatis, foliis enerviis imbricatis verticillatis sessilibus lanceolatis v. ovato-lanceolatis subacutis concaviusculis paginis glabris pilosulo-ciliatis, bracteolis lineari-ovalibus conduplicatis folio dimidio brevioribus, floribus folio æquilongis v. leviter exsertis, tubo perianthii glabro apice dilatato, fauce setoso, limbi lobis ovato-lanceolatis acutis, glandulis 8 setis subæquilongis perianthii lobis 4–5-plo brevioribus.

HAB. Lykipia, Masai Country, 6–8,000 ft., *Mr. J. Thomson.*

Folia internodiis longiora, 4–5 lin. longa. Allied to *Struthiola ovata* of the Cape Flora.—D. OLIVER.

Fig. 1. Bud and bracteoles. 2. Flower and subtending leaf. 3. Perianth, laid open. 4. Pistil. 5. Longitudinal section of ovary.

Plate 1494.

CROTALARIA THOMSONI, *Oliv.*

LEGUMINOSÆ, Tribe GENISTEÆ.

C. Thomsoni, *Oliv. in Journ. Linn. Soc. Bot.* xxi. 399; fruticulus ramosus, caulibus gracilibus ultimis hirtis, foliis petiolatis trifoliolatis, foliolis ellipticis obovatisve obtusis mucronatis reticulatis pilis setisve paucis appressis pagina superiore v. utrinque onustis, floribus majusculis pedunculatis solitariis (v. geminis ?), pedunculis folio oppositis v. quasi terminalibus medio articulatis bracteatis apice bibracteolatis, bracteolis lineari-subulatis tubo calycis subæquilongis, calyce parce et appresse hirtello profunde 5-fido lobis lanceolatis acutis, vexillo purpureo striato dorsi medio hirsuto calyce fere duplo longiore.

HAB. Kapté plateau, Masai Country, *Mr. J. Thomson.*

Folia petiolo hirto gracili stricto ½ poll. longo v. breviore, foliolo centrali ½ poll. longo. *Flores* ½–⅔ poll. lati. *Legumen* turgidum appresse hirtellum utrinque attenuatum, apice stylo persistente falcato terminatum.—D. Oliver.

Fig. 1. Flower, the petals and stamens removed. 2. Vexillum. 3. Ala. 4. Carina. 5. Staminal sheath.

Plate 1495.

LEUCAS MASAIENSIS, *Oliv.*

Labiatæ, Tribe Stachydeæ.

L. masaiensis, *Oliv. in Journ. Linn. Soc. Bot.* xxi. 403; herba decumbens, caulibus pilis brevibus decurvatis hirtellis, foliis petiolatis obovato-rotundatis obtusis late crenatis basi late cuneatim angustatis rotundatisve, verticillastris solitariis longiuscule pedunculatis multifloris, bracteolis anguste linearibus calycem subæquantibus, calyce tubuloso campanulato ore subæquali 12-dentato, dentibus brevibus subulatis, corollæ labio antico 3-partito lobo centrali rotundato-obovato retuso, tubo calycem æquante.

Hab. Lykipia, 6–8,000 ft., Masai Country, *Mr. J. Thomson.*

Folia ¾–1 poll. longa, hirtella. *Flores* ½ poll. longi.—D. Oliver.

Fig. 1. Calyx. 2. Corolla. 3. Same laid open. 4. Stamens. 5. Pistil. *Enlarged.*

Plate 1496.

WUNDERLICHIA MIRABILIS, *Riedel.*

Compositæ, Tribe Mutisiaceæ.

W. mirabilis, *Riedel*; ramulis crassis rugosis dense lanosis, foliis sessilibus obovatis, involucro dense lanoso, corollæ tubo segmentis longioribus achænio piloso.—*Riedel in Herb. Hort. Petrop.; Baker in Mart. Flora Bras.* vol. vi. pt. iii. 343.

Central Brazil, on the mountains of the province of Minas *Riedel, Glaziou*, 14941.

ıcula 10–12-pedalis, ramulis ultimis lignosis 9–12 lin. diam. d apices ramorum conferta integra coriacea, juniora utrinque lbido-pannosa, seniora 5–6 poll. longa et lata, facie calvata, enuiter pilosa venis venulisque exsculptis. *Involucrum* cam- um 3 poll. longum, et latum, densissime lanosum, bracteis s multiseriatis, exterioribus ovatis, centralibus lanceolatis dorso nter pannosis, intimis linearibus glabris. *Corollæ* glabræ lin. longo, segmentis lanceolatis. *Antheræ* stramineæ 7–8 lin.

Achenia cylindrica 4–4½ lin. longa. *Pappus* stramineus longus cito decidnus, paleis in annulum basalem concretis.

the original species on which this very curious genus was , has now been rediscovered by Dr. Glaziou.—J. G. Baker.

Bract of involucre. 2. Single floret. 3. Inner bracts of involucre. 4. 5. Stigma. *Except No.* 1, *enlarged.*

Plate 1497.

SICKINGIA ERYTHROXYLON, *Willd.*

Rubiaceæ, Tribe Cinchoneæ.

rythroxylon, *Willd., DC. Prodr.* iv. 621; foliis amplis mem- ıis late rhomboideo-ellipticis acutis basi anguste cordatis rotun- , nervis lateralibus utrinque 19–21 subtus prominulis venis ıdiis transversis subparallelis, paniculis terminalibus breviter ılatis pyramidatis multifloris pedunculis secundariis adscenden- arce pubescentibus, floribus cymosim congestis, calycis limbo ınulato breviter 5-lobato lobis rotundatis sæpius dein lateraliter ıorolla late tubuloso-campanulata lobis brevibus revolutis, globosa.

Originally cited as from Caracas. Our figure is from speci- f uncertain origin, included amongst South Brazilian species, by M. Glaziou (No. 14938).

9–15 poll. longa, 6–10½ poll. lata, costa subtus pilosula excepta, repanda v. integra; petiolus ¾–1 poll. longus. *Panicula* 6–10 ınga, 5–7 poll. lata; bracteæ ovato- v. elliptico-oblongæ . *Flores* ⅓–½ poll. longi 5- vel 4-meri. *Stamina* exserta;

filamenta et tubus corollæ intus hirta; antheræ oblongo-ellipticæ obtusæ. *Stylus* exsertus, lobis 2 crassiusculis obtusis. *Capsula* globosa bivalvis 1 poll. diam. *Semina* (ala inclusa) 8–11 lin. longa, ala obtusa nucleo æquilonga.

The stipules are fallen. We have identified this plant by aid of a tracing, taken by Sir Joseph Hooker from a specimen in the Berlin herbarium; I think, with little risk of mistake. Both the young wood and leaves assume more or less of a reddish colour when dry.—D. Oliver.

Fig. 1. Unexpanded flower. 2. Same open. 3. Calyx and style. 4. Corolla laid open. 5. Longitudinal section of ovary. 6. Seed. 7. Embryo. *Flowers and embryo enlarged.*

Plate 1498.

SICKINGIA LONGIFOLIA, *Willd.*

Rubiaceæ, Tribe Cinchoneæ.

S. longifolia, *Willd.*; *DC. Prodr.* iv. 621; foliis elongato-oblanceolatis v. obovato-oblongis obtusis breviter apiculatis basi obtusissimis sæpius anguste cordatis integris glabris breviter petiolatis, stipulis scariosis ovato-lanceolatis longe acuminatis, paniculis plurimis in axillis superioribus pedunculatis multifloris puberulis folio brevioribus, pedunculis secundariis sæpius brevibus, floribus pedicellatis congestis, calycis limbo breviter et obtuse 4-lobato lateraliter spathaceo-fisso, corollæ limbo breviter 4-lobato lobis rotundatis æstivatione concavis late imbricatis, tubo dein irregulariter fisso, filamentis exsertis inferne hirtis, capsula compresso-globosa.

Hab. Also originally from Caracas, sent to Kew by M. Glaziou, with the foregoing (No. 14939).

Folia 10–15 poll. longa $3\frac{1}{2}$–5 poll. lata, submembranacea nervis lateralibus utrinque 21–23 prominulis; petiolus $\frac{2}{3}$–$\frac{3}{4}$ poll. longus glaber. *Stipulæ* $1\frac{1}{2}$–$1\frac{3}{4}$ poll. longæ. *Flores* circa $\frac{1}{2}$ poll. longi, corollis omnibus ut videtur irregulariter fissis. *Antheræ* lineari-oblongæ, dorso longitudinaliter incrassato, prope basin affixæ. *Capsula* $2\frac{1}{2}$ poll. diam. *Semina* horizontalia $1\frac{3}{4}$–2 poll. longa $\frac{3}{4}$ poll. lata macroptera.

Identified, as the above, by aid of a tracing from a specimen preserved at Berlin.—D. Oliver.

Fig. 1. Bud. 2. Calyx. 3. Flower. 4. Corolla, laid open. 5. Longitudinal section of ovary. 6. Capsule. 7. Seed. *Excepting capsule and seed, enlarged.*

PLATE 1499.

PSYLLOTHAMNUS BEEVORI, *Oliv.*

ILLECEBRACEÆ.

Psyllothamnus, *Oliv.* (*gen. nov.*); flores bracteati capitati, capitulis pedunculatis; bracteæ scariosæ apiculatæ. *Perianthium* 5-partitum, tubus brevissimus ore inter stamina incrassatus 5-lobulatus, limbi segmenta 5 lineari-oblonga obtusa v. emarginata tenuiter petaloidea v. hyalina longitudinaliter venulosa bracteis involucrantibus breviora. Stamina 5 perigyna, fauci tubi perianthii inserta segmentis alterna eisdem breviora; antheræ parvæ late ellipticæ dorsifixæ; staminodia 0. Ovarium liberum depresso-conicum, stylus brevis bifidus lobis recurvis; ovula 2 anatropa v. hemianatropa, sub apice placentæ centralis crassiusculæ pendulæ opposita. *Semen* solitarium erectum ellipsoideum compressum utriculo tenui conforme, albuminosum; embryo subannularis albumen farinaceum cingens, radicula infera.—Frutex v. suffrutex, *ramis divaricatis nodosis teretibus cortice cinerascente obductis.* Folia *in nodis fasciculata* (*in ramulis elongatis verosimiliter crassiora opposita*) *carnosula angustissime linearia obtusiuscula glabra* ½–1 *poll. longa.* Capitula *pauciflora pedunculata, pedunculis rectis rigidulis folio longioribus, bracteæ involucrantes late ovatæ obtuse apiculatæ* v. *in floribus abortivis demum aristatis squarrosis, marginibus scariosis.*

HAB. With a parcel of specimens from Aden and thereabouts, *Dr. Hugh Beevor.*

Folia ½–1 poll. longa. *Capitula* ¼ poll. diam.

The numerous leaves on our specimen are nearly all fascicled on opposite abbreviated branches, so that I can only infer their arrangement on elongating branches from the opposition of the fascicles. At the base of the fascicles are very minute ovate brownish free squamæ, which may be, and probably are, stipular.

The plant in general character recalls *Gymnocarpos*, of Forskal. Dr. Bayley Balfour describes from Socotra two new genera of this Natural Order: *Haya*, an annual herb with solitary basilar ovules; and *Lochia*, frutescent, but flowers not involucrate, and also with a solitary ovule suspended from a basilar funicle. Probably a rearrangement of the tribes of the Order may become necessary in view of these additions.—D. OLIVER.

Fig. 1. Capitulum. 2. Single flower, laid open. 3. Pistil. 4. Same, vertical section. 5. Single flower with its investing bracts. 6. Fruit. 7. Seed. 8. Embryo. *All enlarged.*

Plate 1500.

RŒPEROCHARIS BENNETTIANA, *Reichb. fil.*

Orchidaceæ, Tribe Ophrydeæ.

R. Bennettiana, *Reichb. fil.*, *Otia Bot. Hamb.* 1881, p. 104; foliis arrectis infra energetice trinerviis lineari-lanceolatis ad 5, vaginis squamosis suprapositis 3–4, racemo densifloro cylindraceo usque spithamæo, bracteis lanceolatis flores subæquantibus, sepalo impari ovato-triangulo, sepalis lateralibus curvatis oblongis acutis arrectis, tepalis a basi semiovata triangulo uncinatis, apice convolutis antrorsum curvatis, labello tripartito, partitionibus linearibus lateralibus ascendenti-curvatis, calcari cylindraceo obtuso ovario paulo breviori, stigmatum brachiis superioribus ligulatis apice lobulatis.

Hab. Ex Tigré v. Begember, *Schimper* (No. 1327).

Caulis validus 1½–3-ped. v. altior.

As my colleague, Mr. N. E. Brown, points out, Mr. Bentham was in error in referring this plant to *Disa* (Gen. Plant. iii. 627), probably through misapprehension as to origin of the spur. Dr. Reichenbach's generic diagnosis runs thus:—"Affine Habenariæ: columna latissima, antheræ loculis antice abruptis sine canalibus, rostello latissimo laminari antice in lacinias triangulas descendente, stigmatis cruribus utrinque, deorsum et sursum porrectis, hinc bicruribus." The specific description is nearly in Dr. Reichenbach's words.—D. Oliver.

Fig. 1. Side view of flower. 2. Front view of column, lobes of labellum cut short. 3. Pollen-mass.

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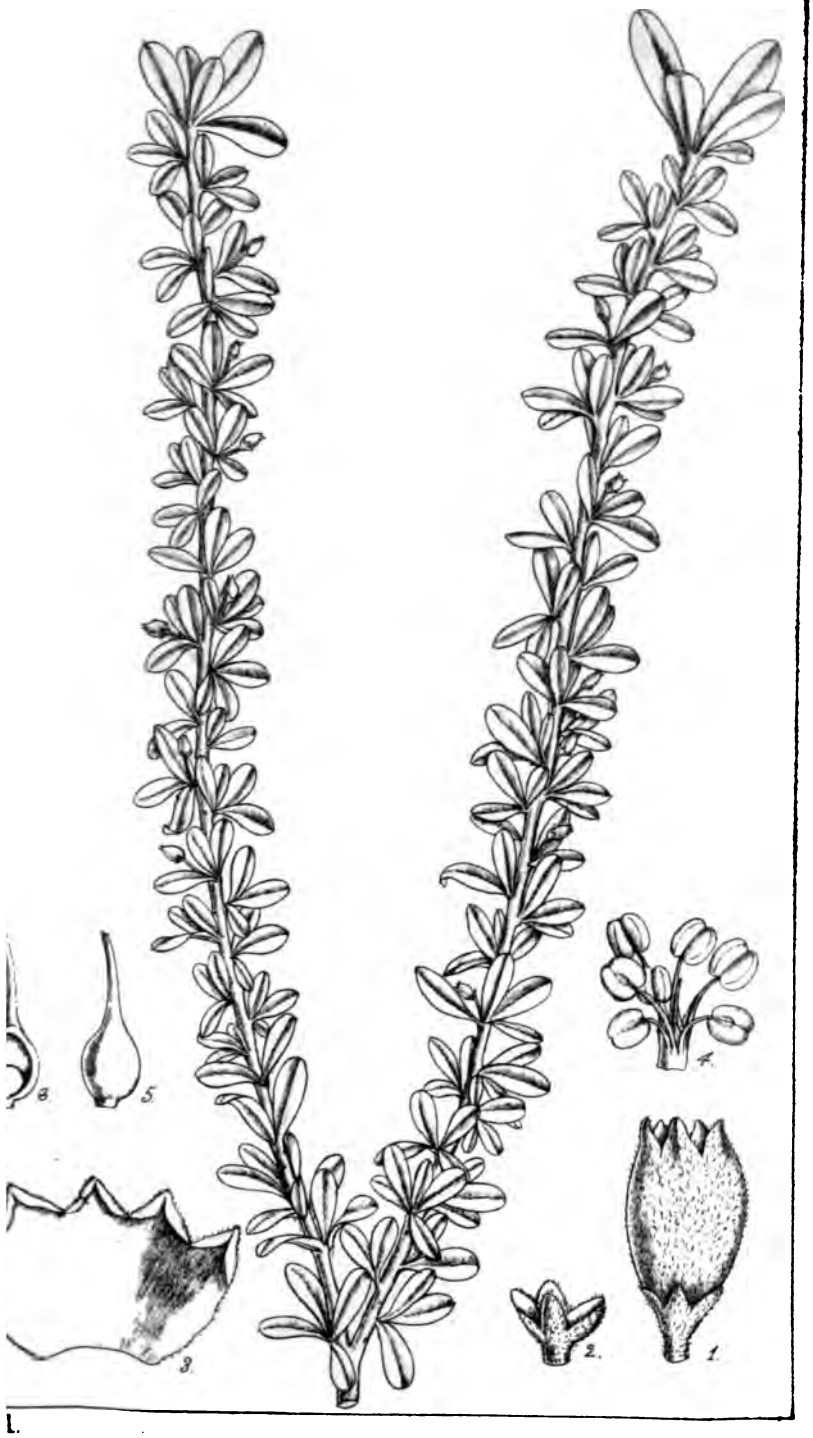

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Rhaphispermum gerardioides Benth.

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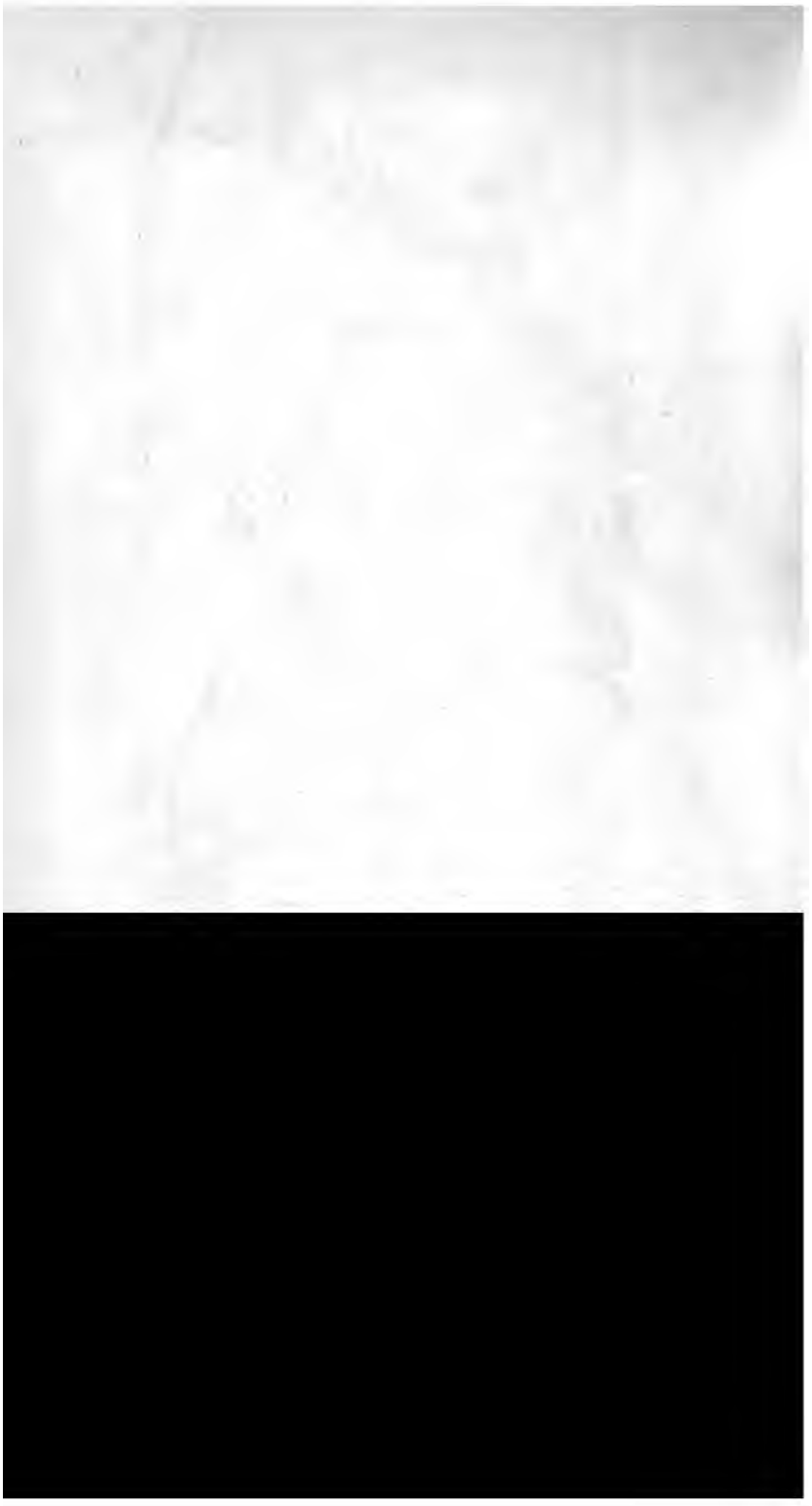

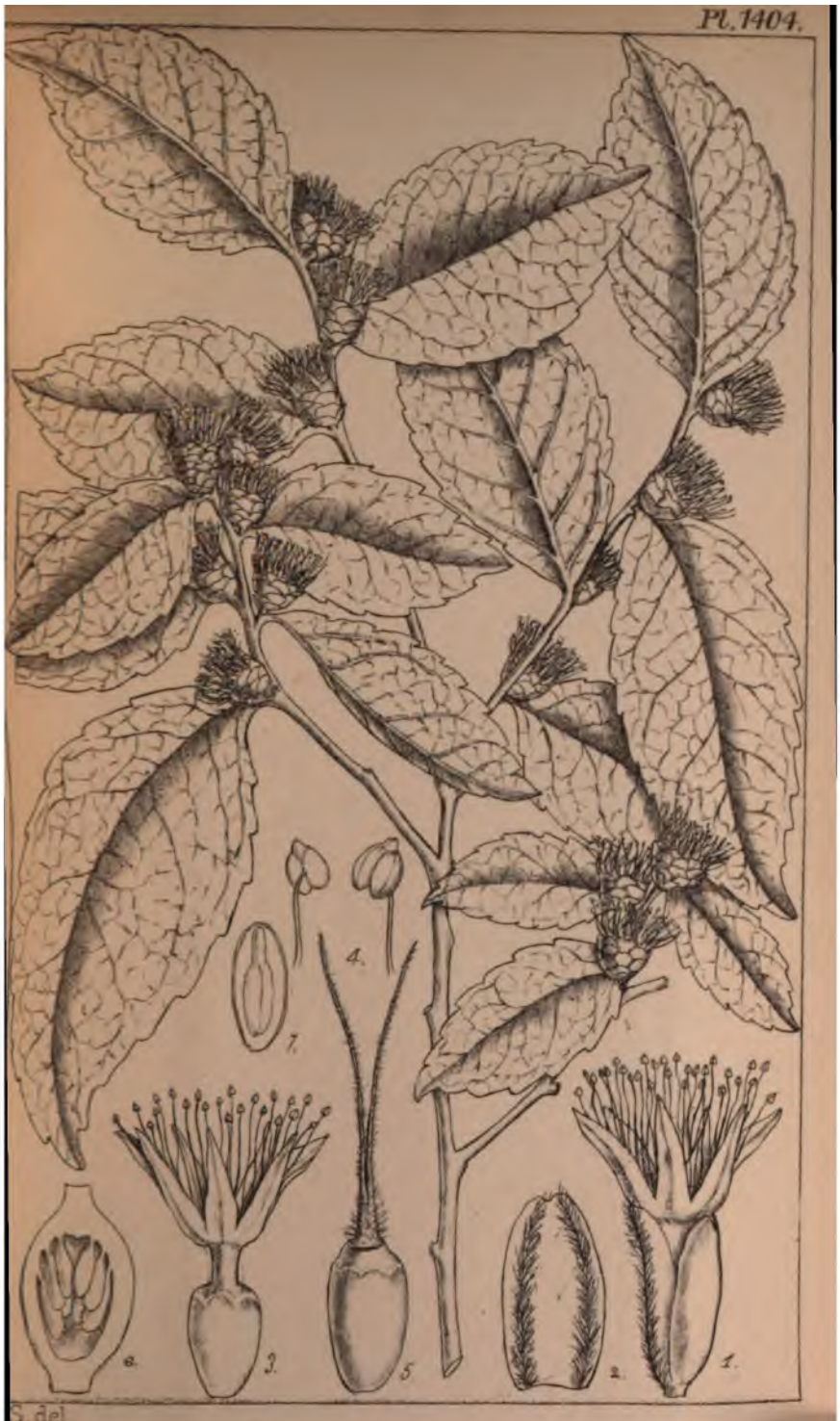

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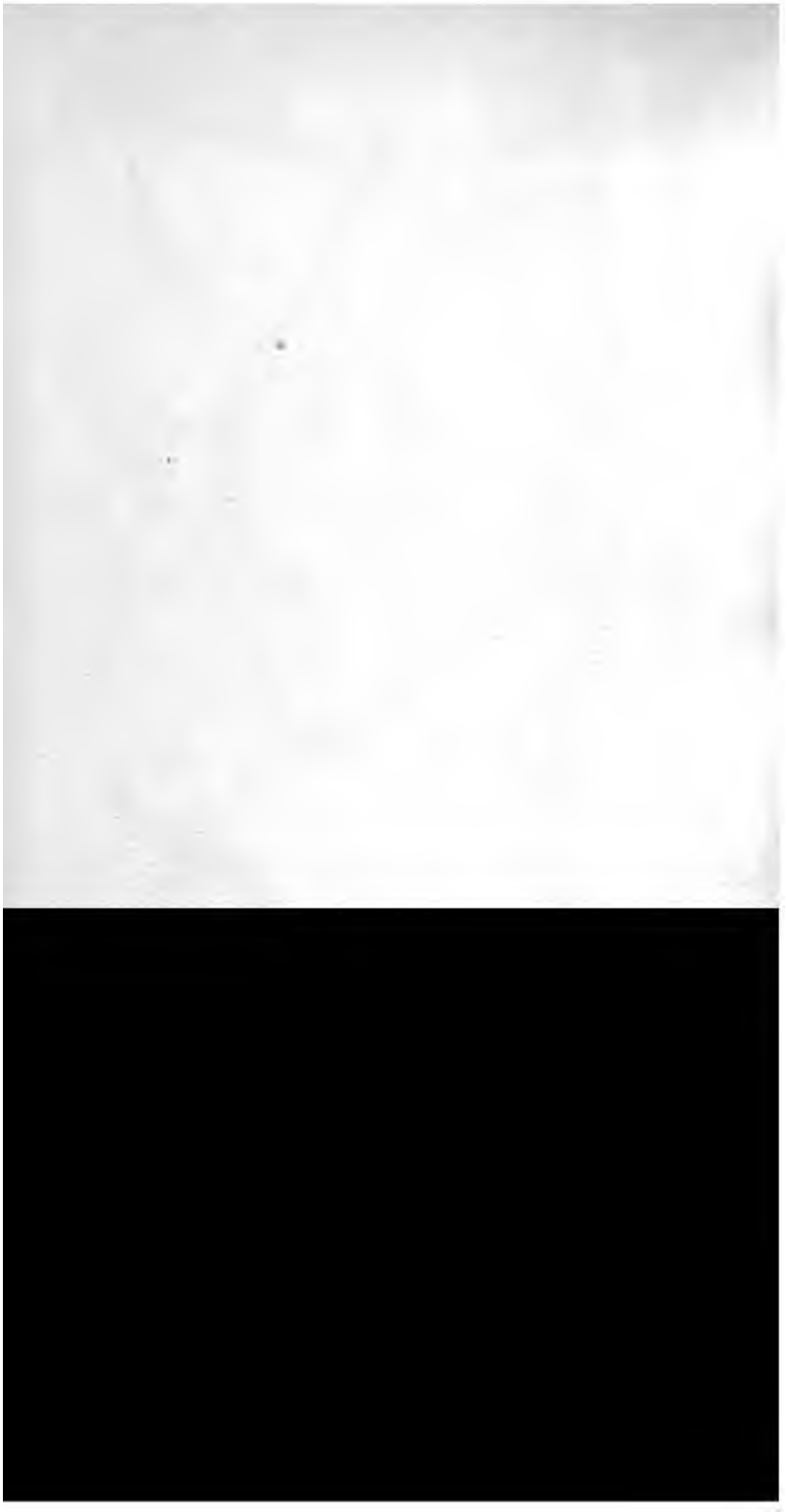

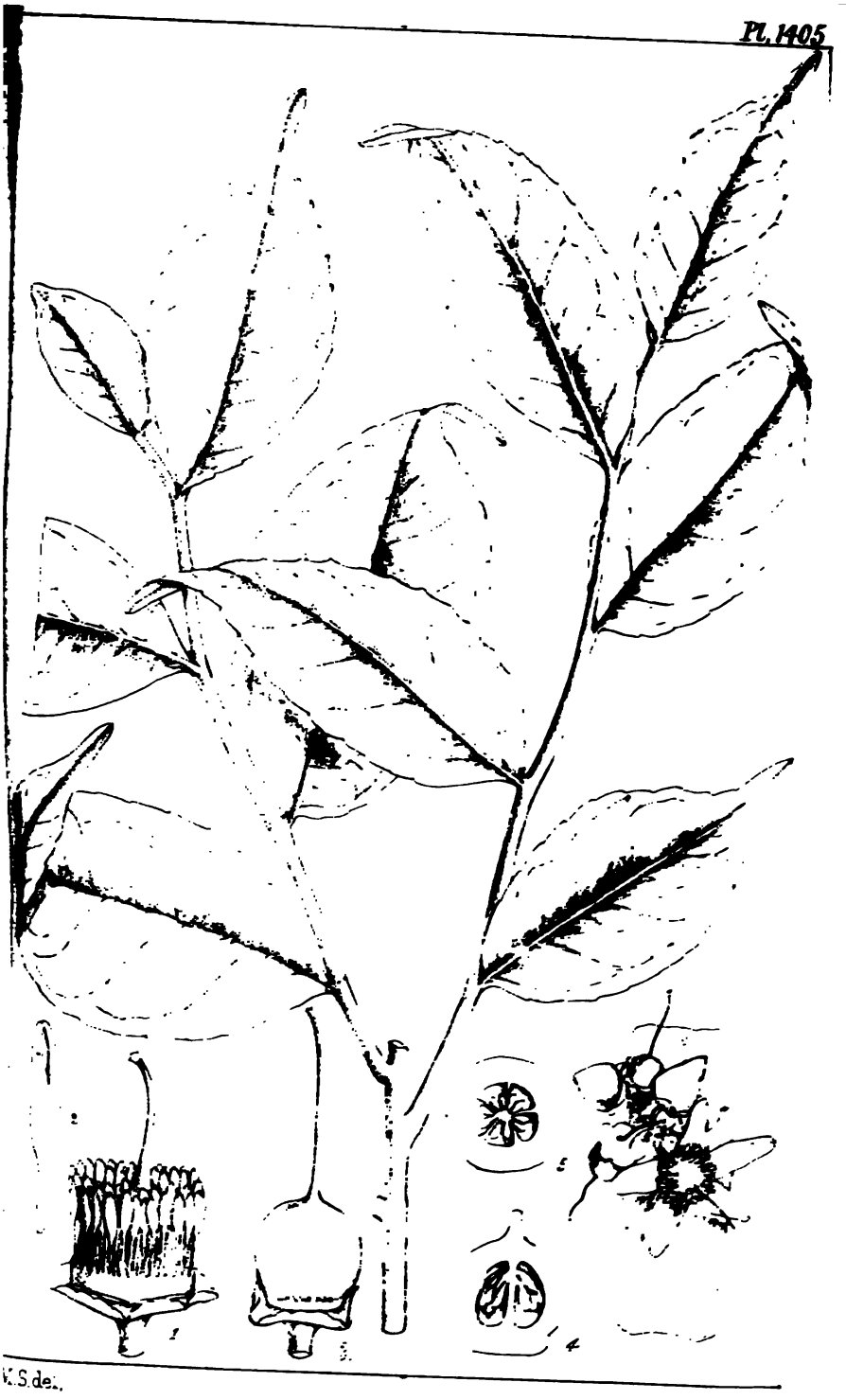

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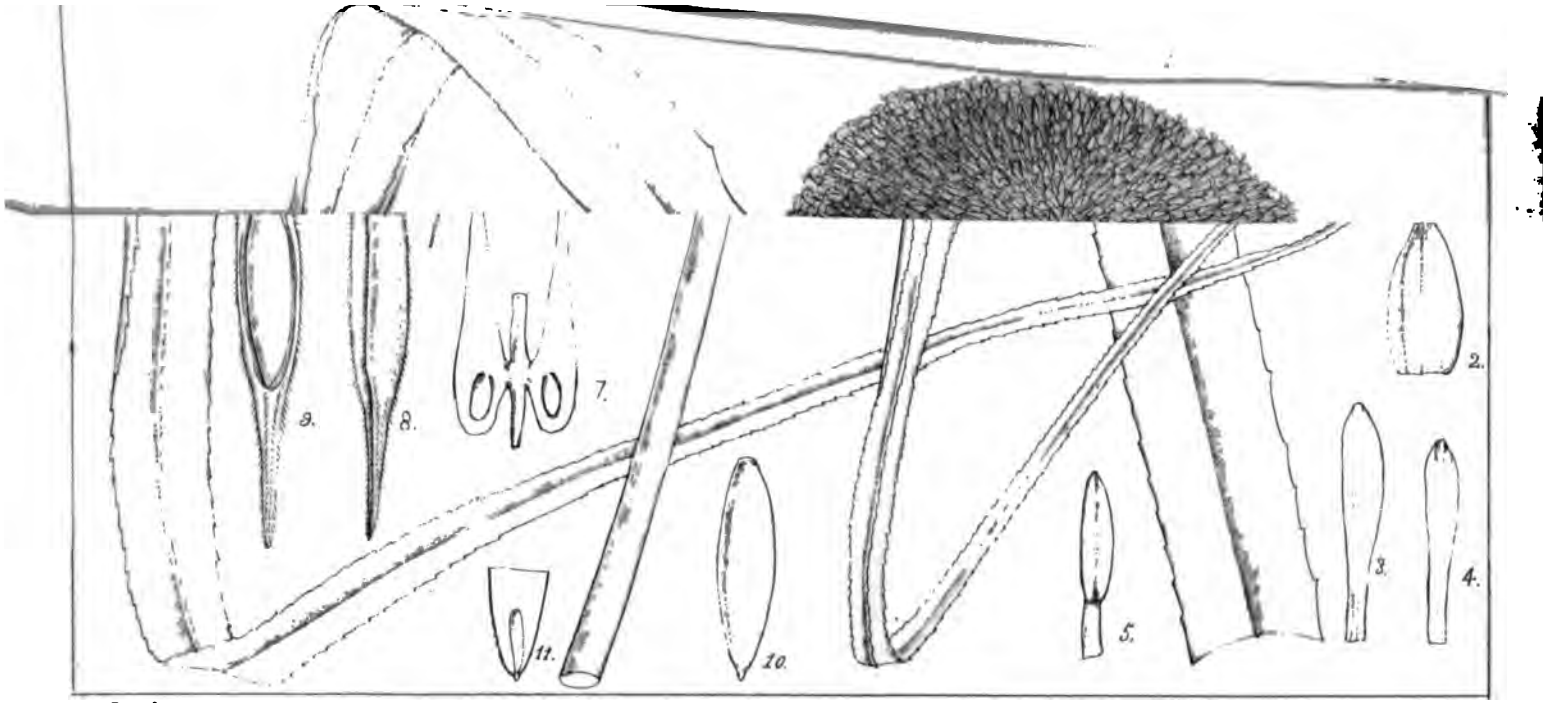

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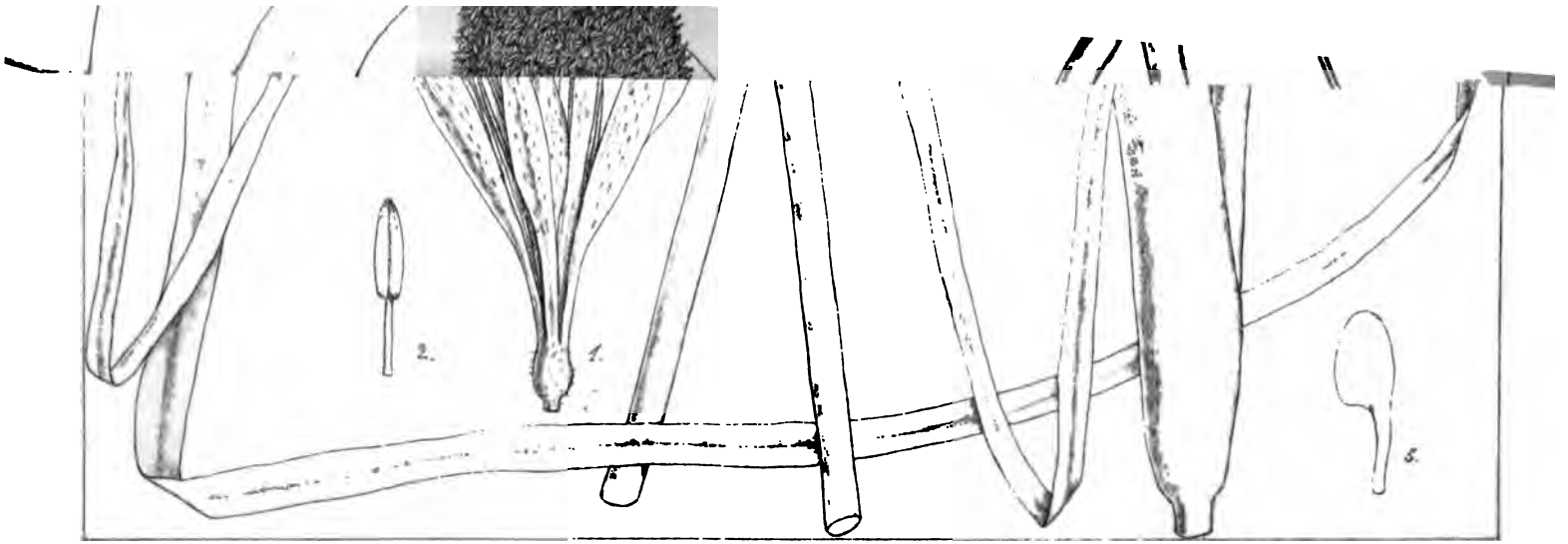

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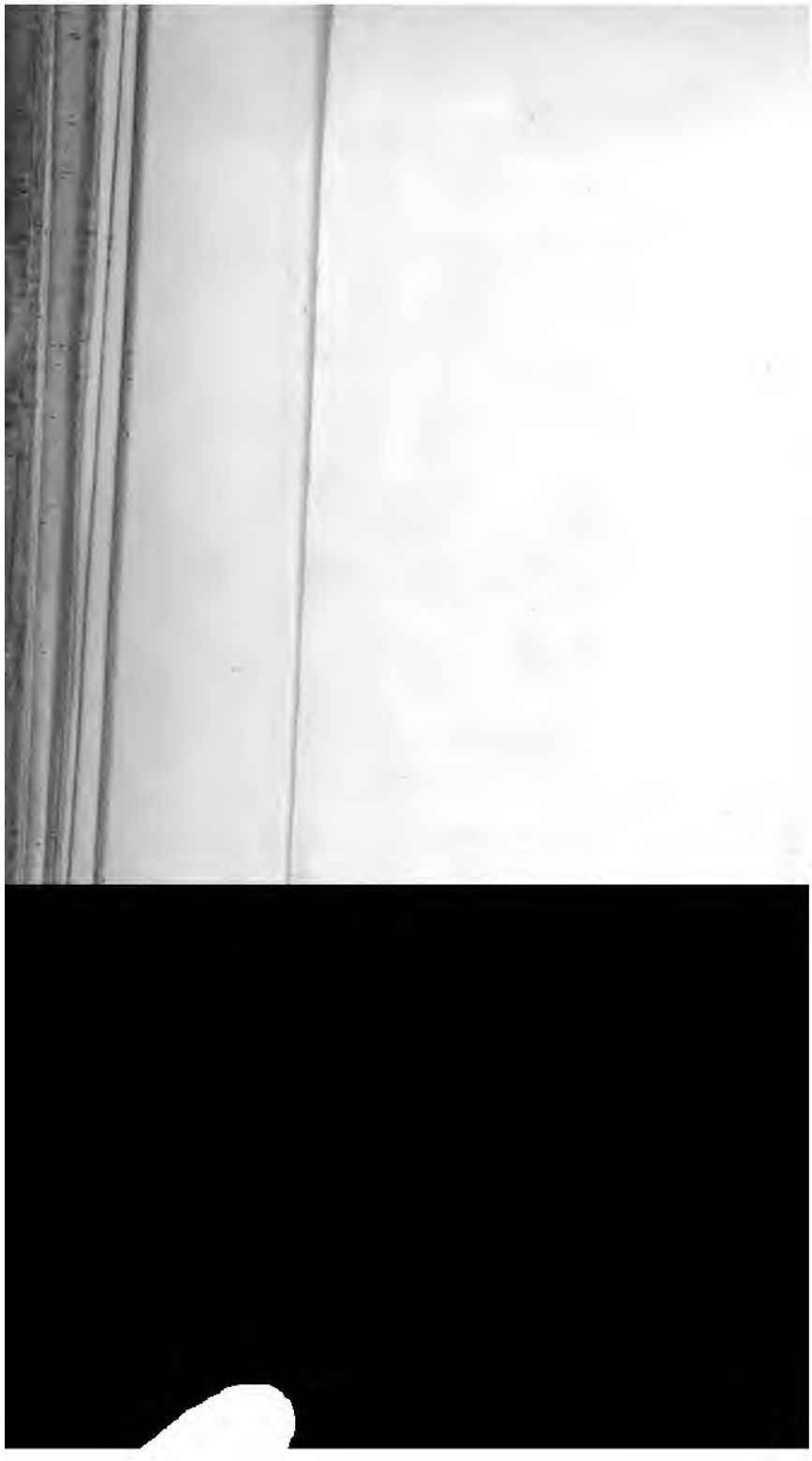

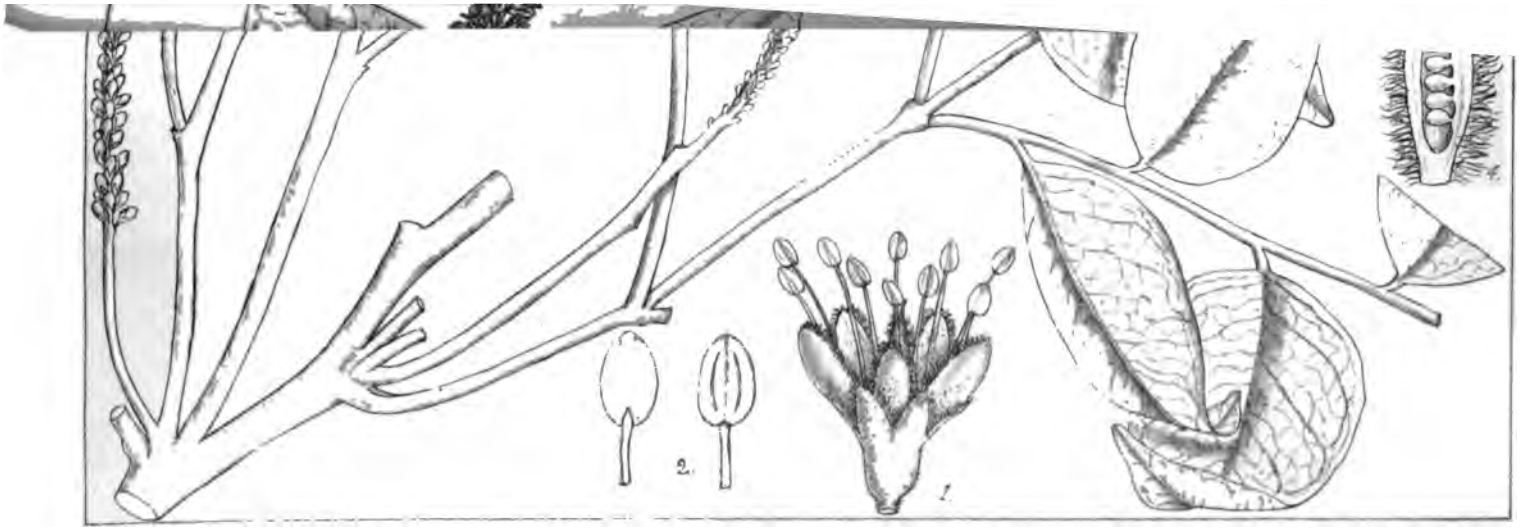

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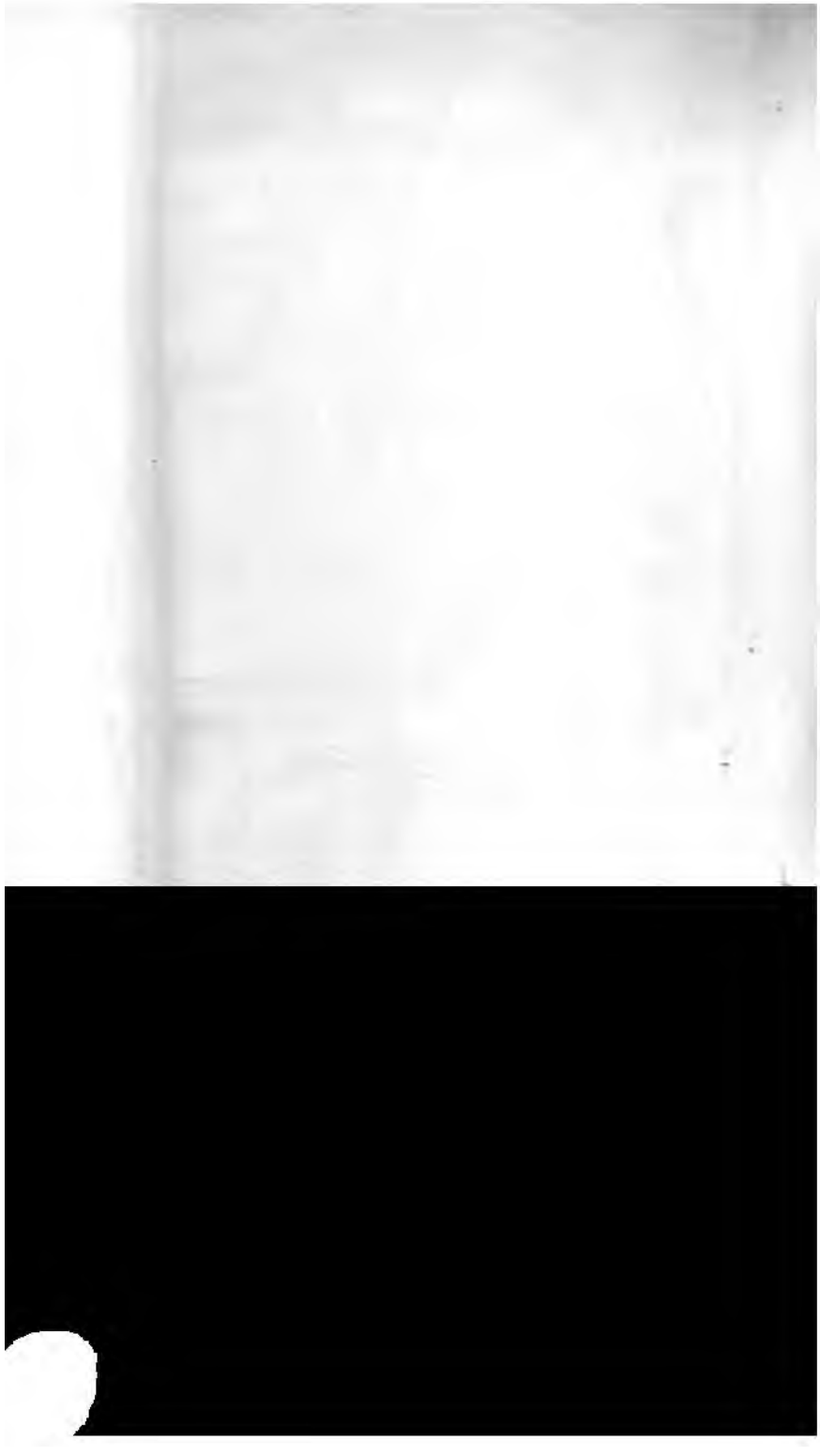

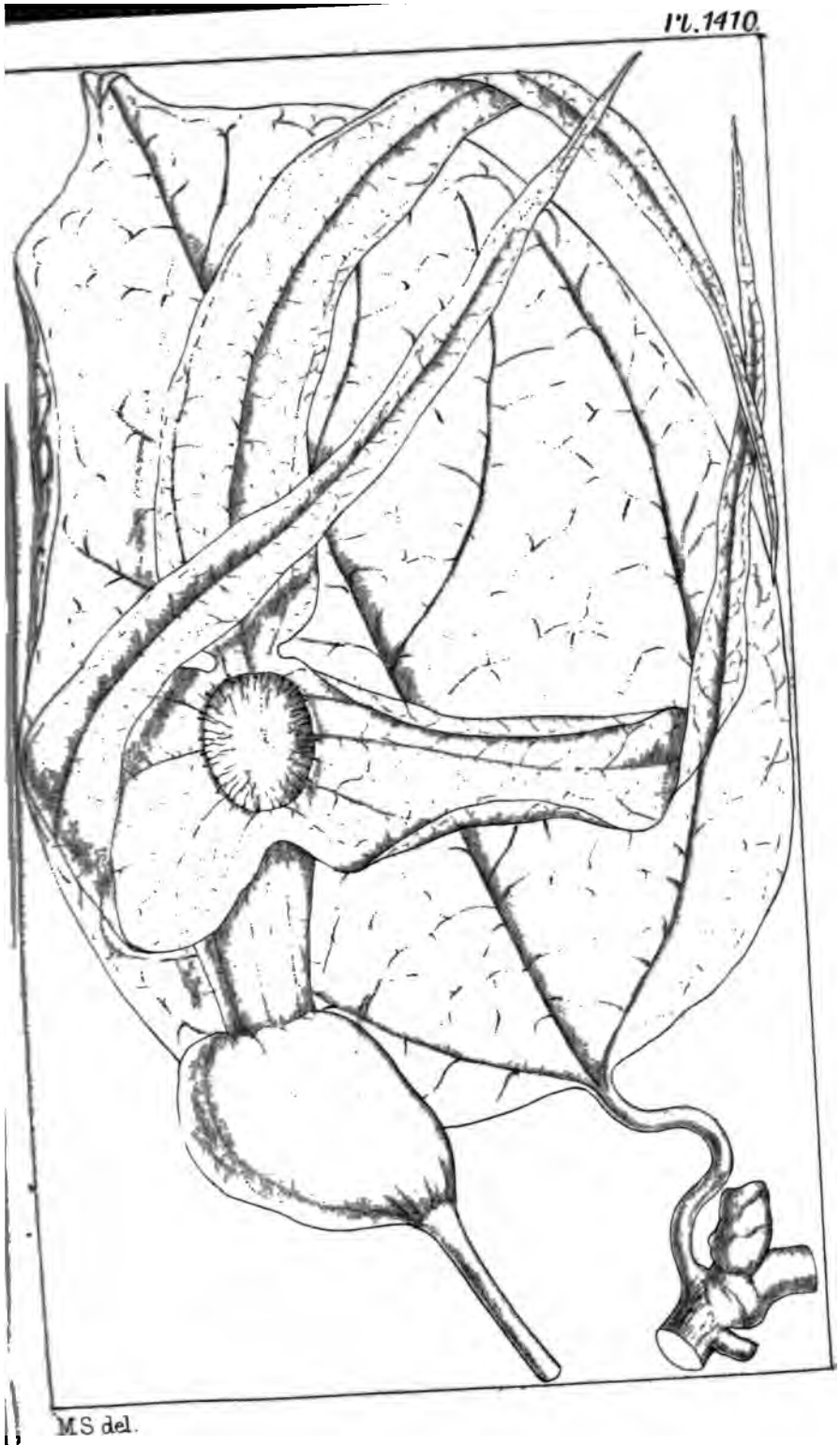

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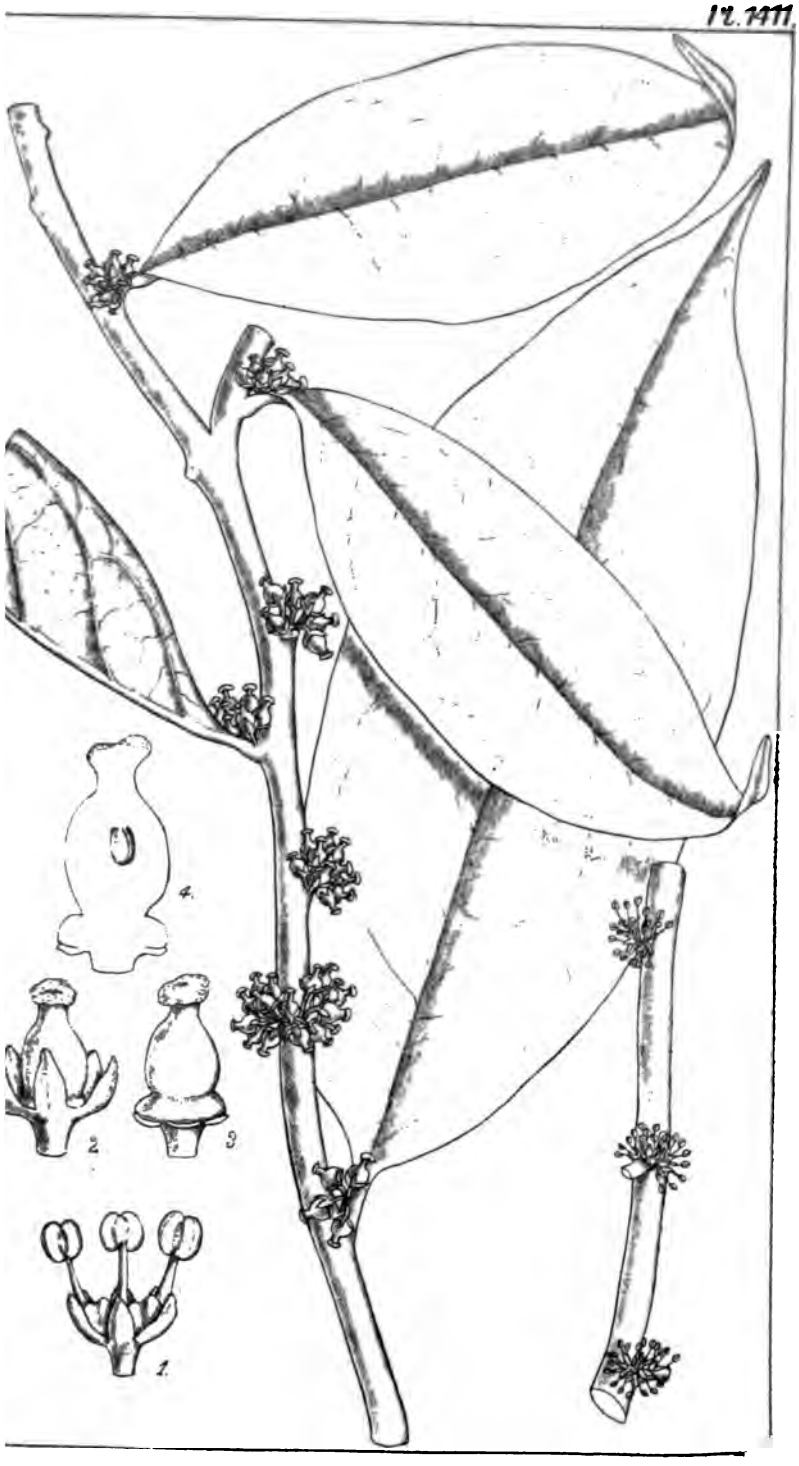

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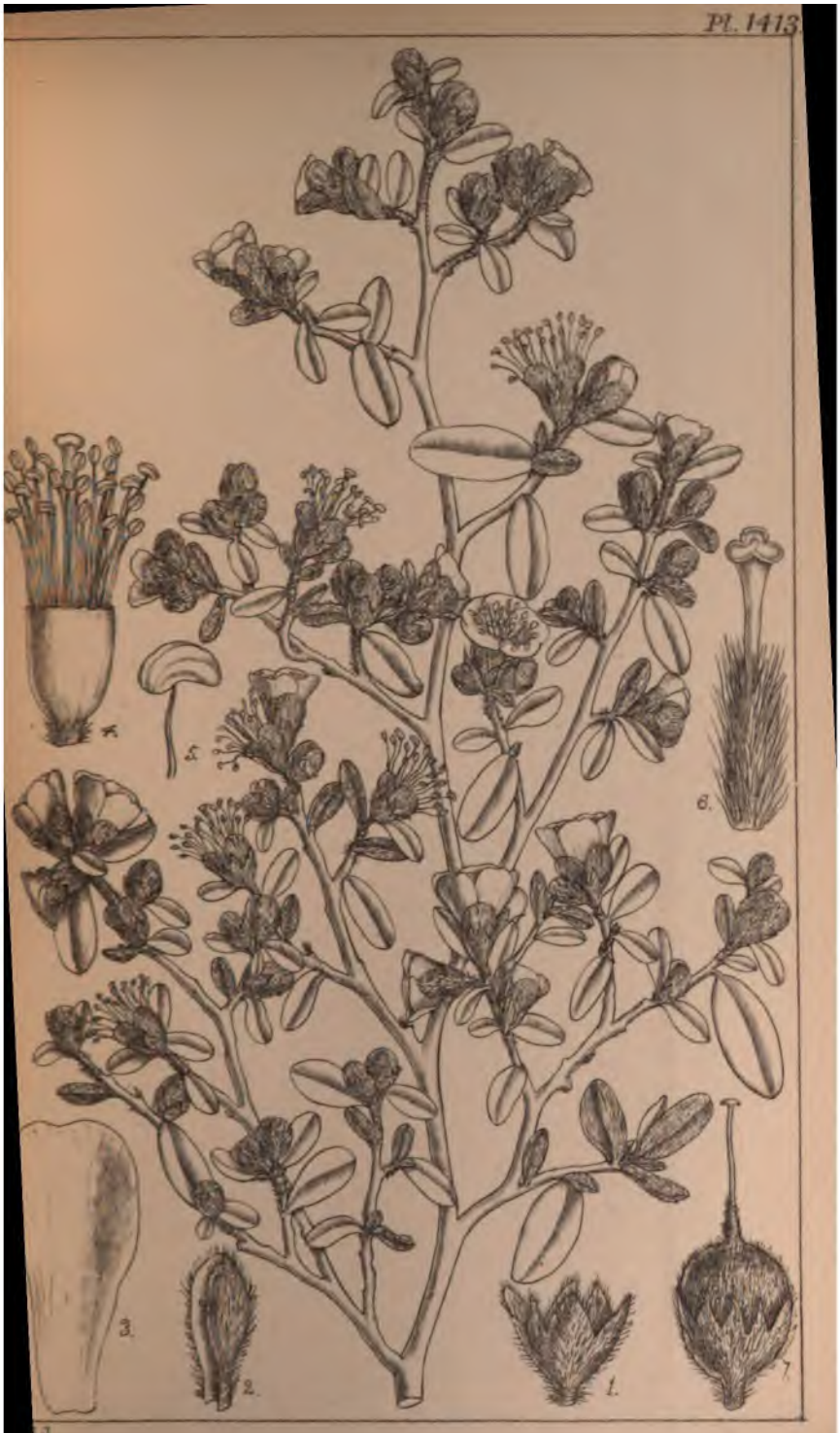

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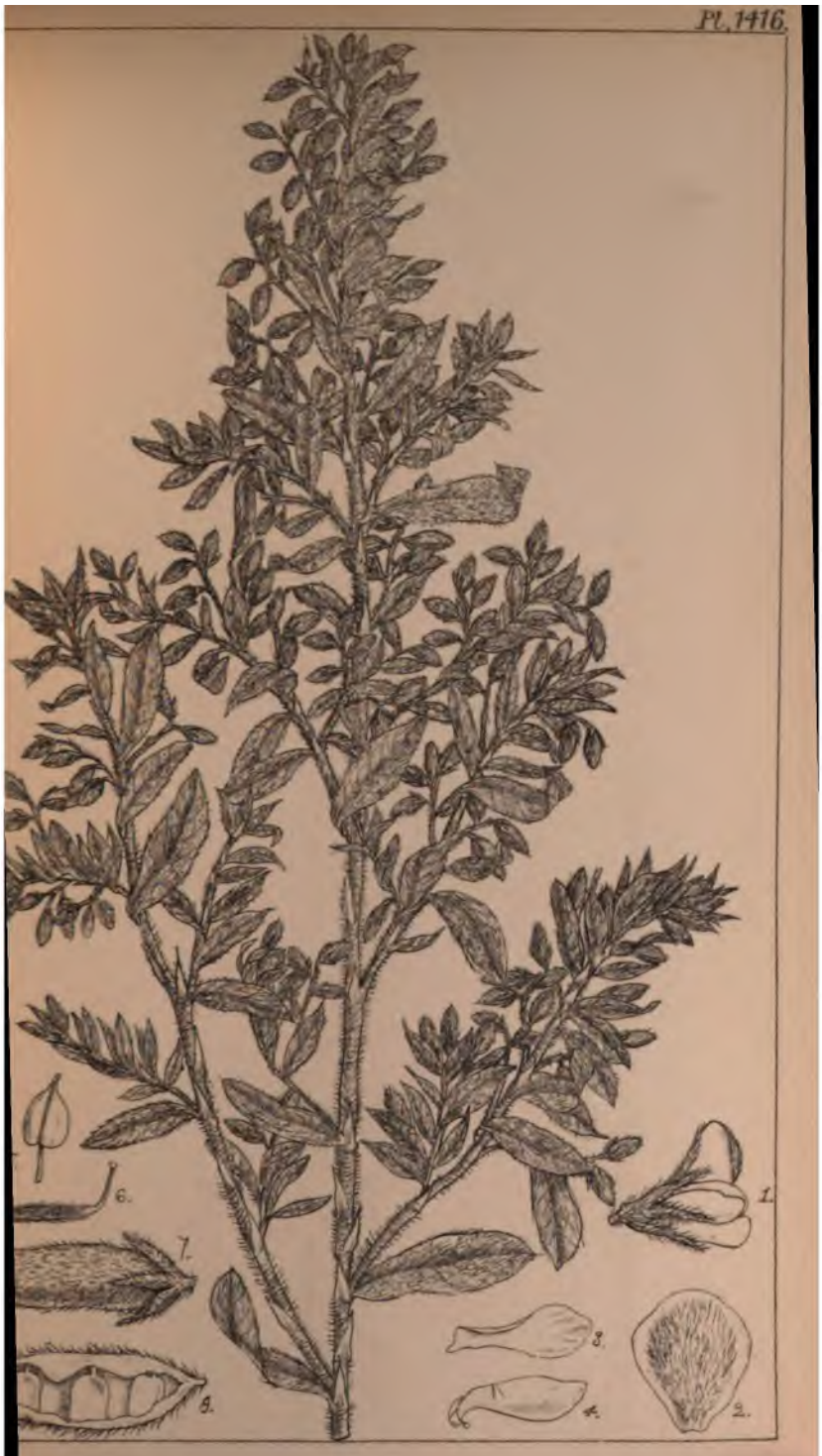

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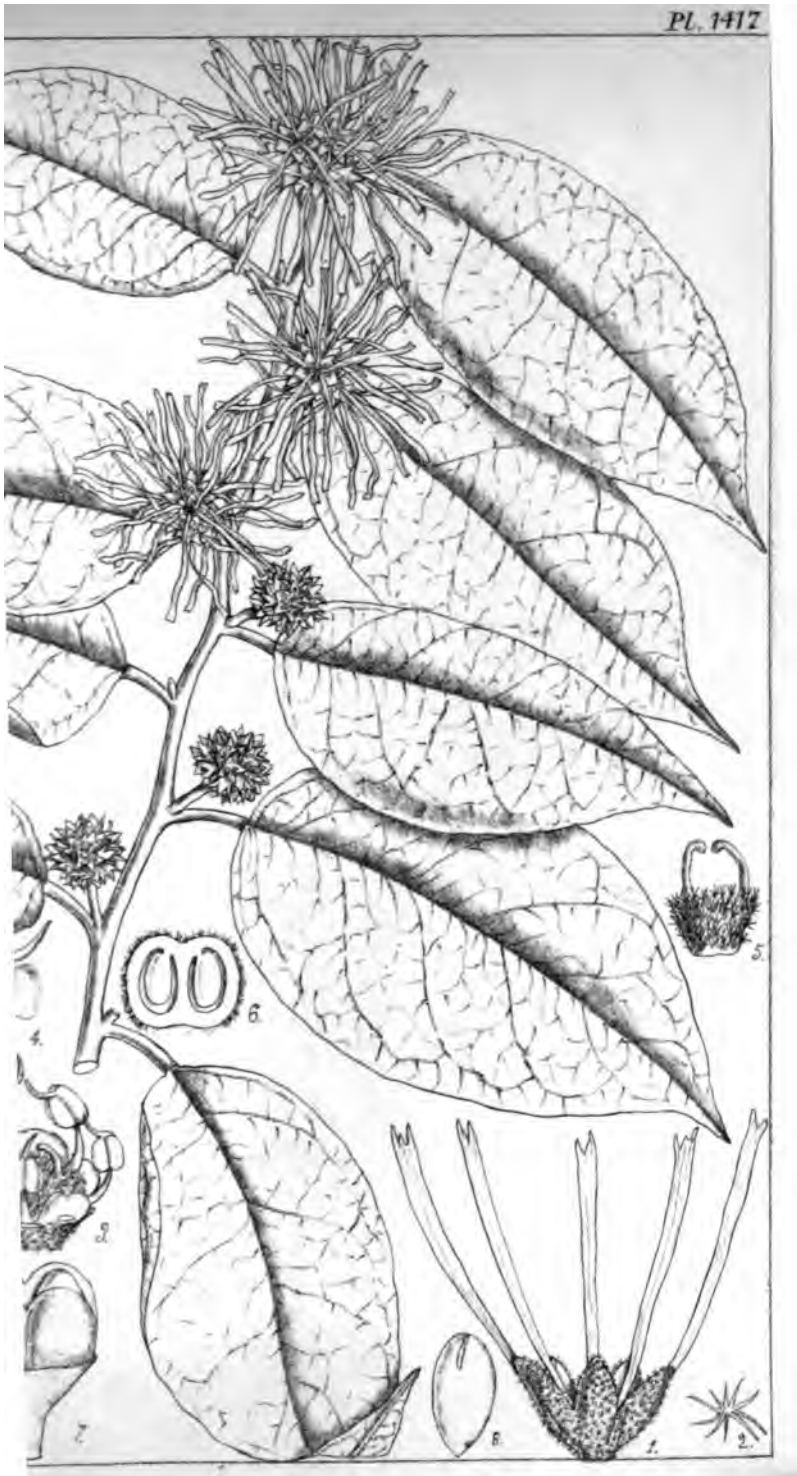

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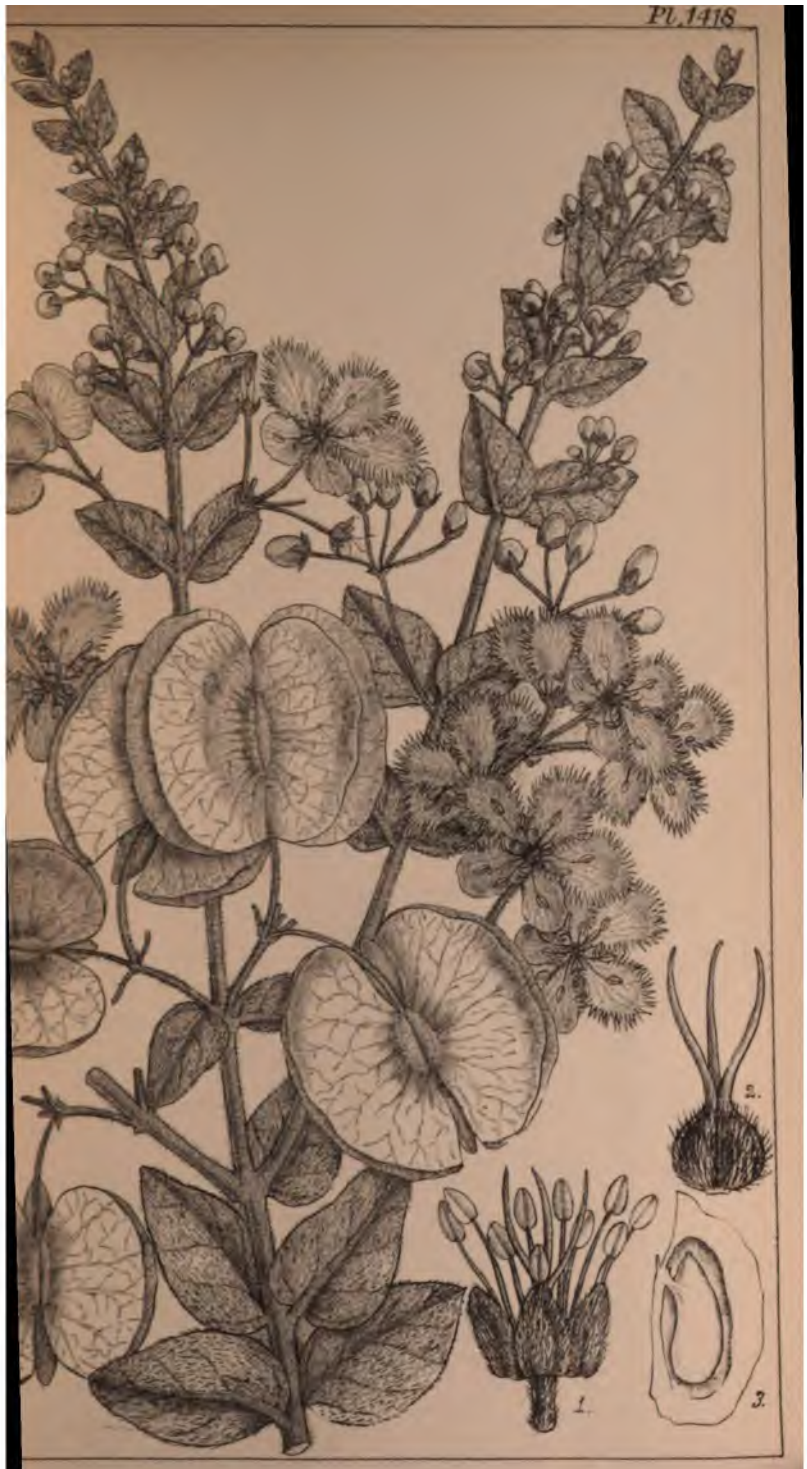

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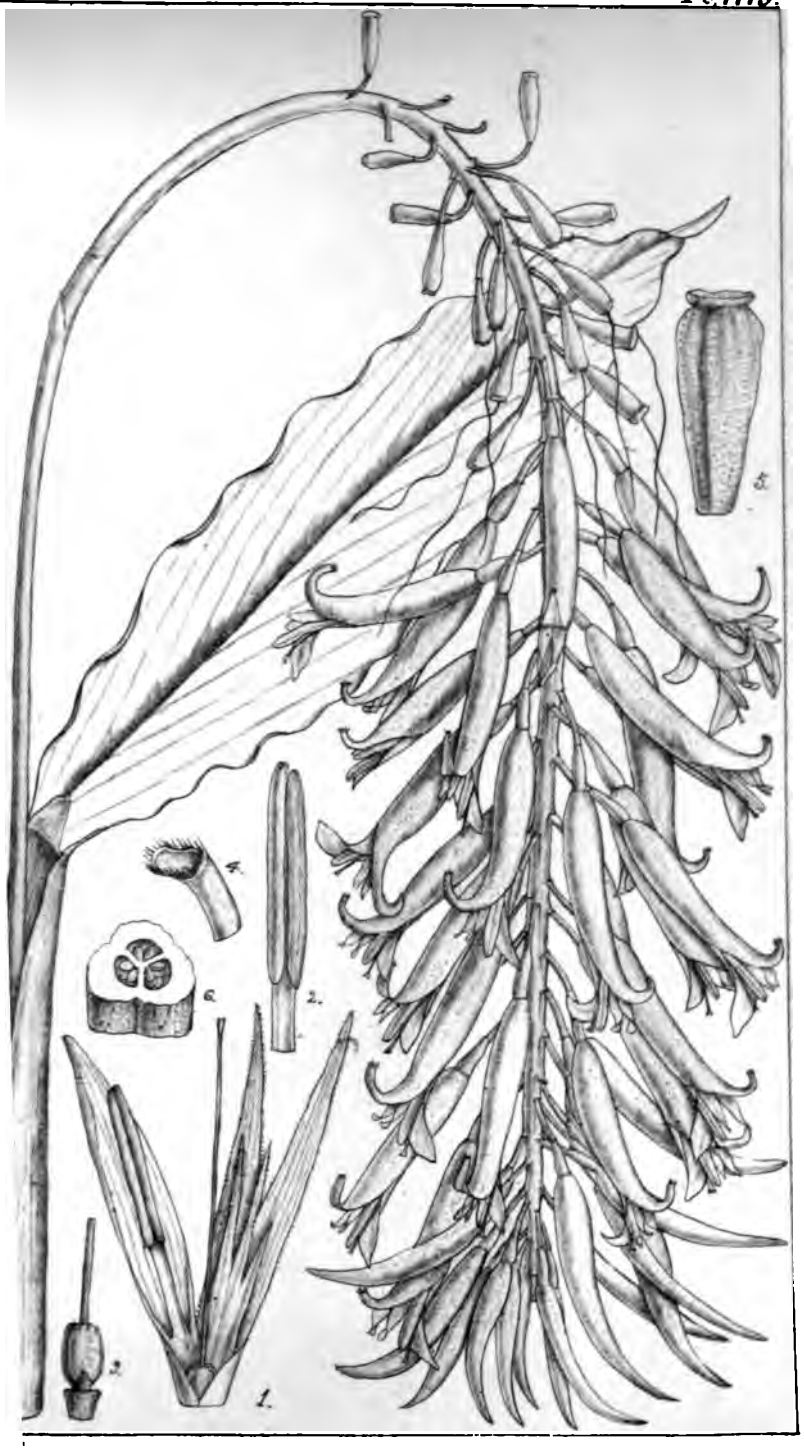

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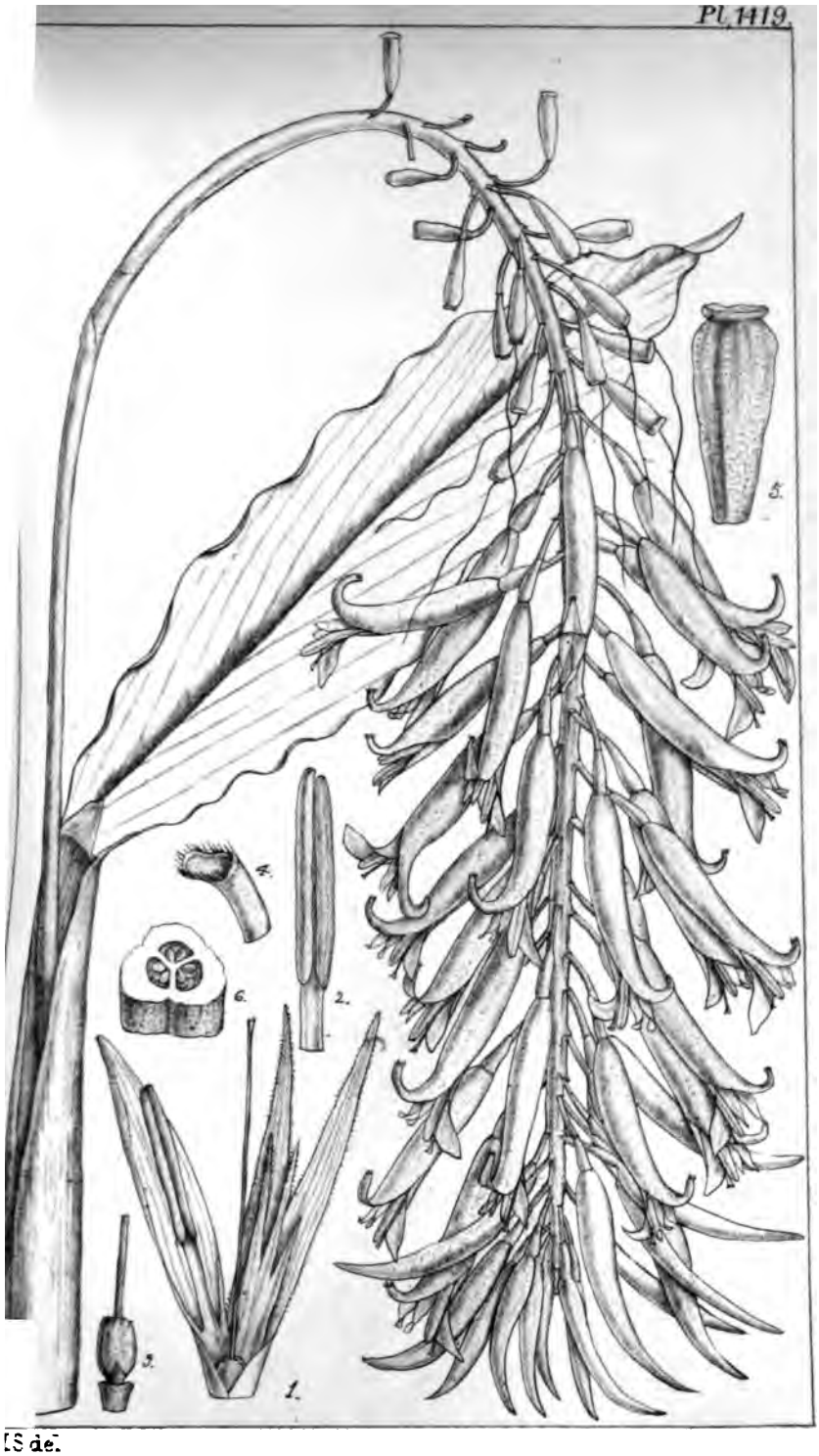

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Riedelia curviflora Oliv

Petræovitex Riedelii, Oliv.

Toxanthera natalensis, Hook. fil.

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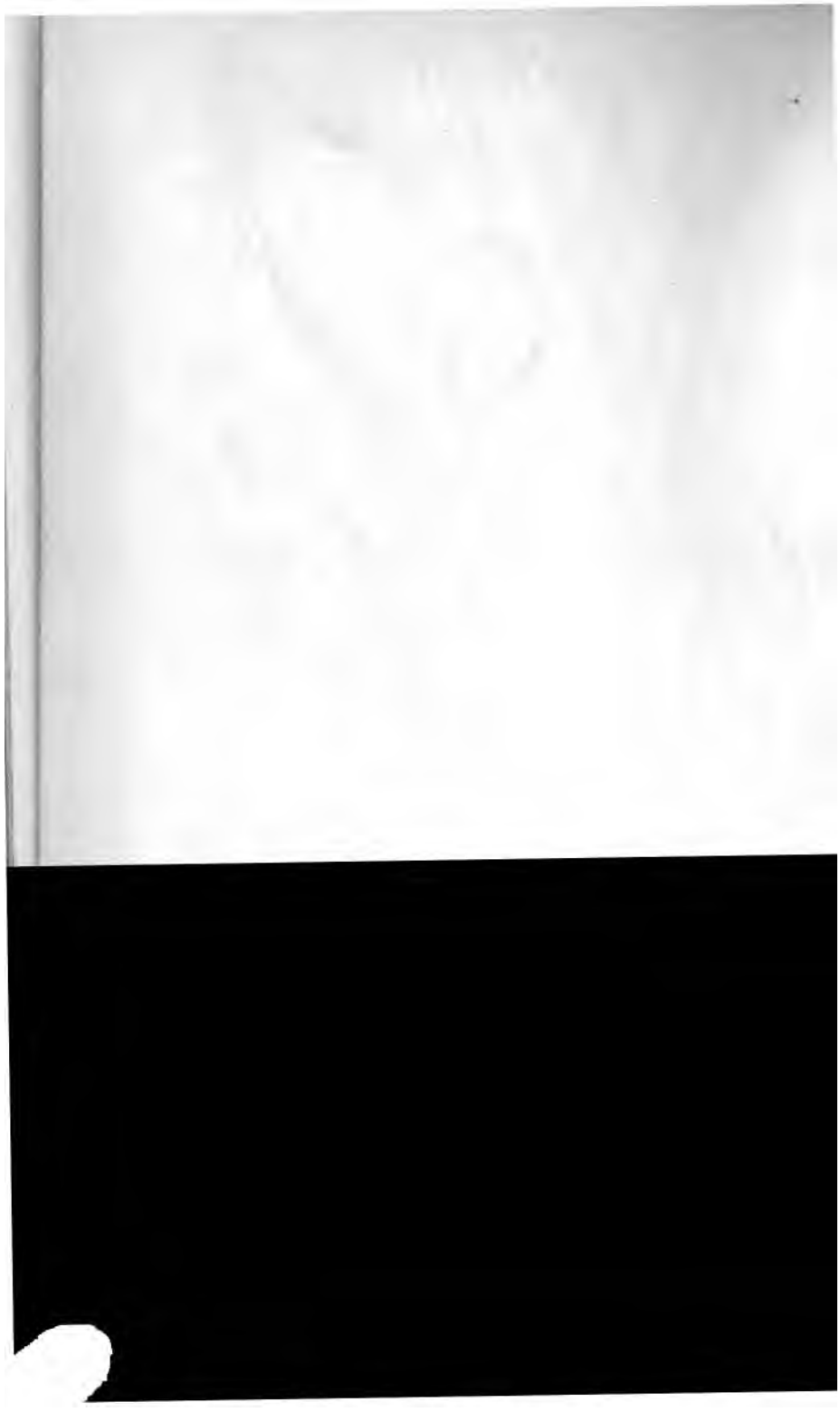
Dittoceras Andersoni, Hook. f.

Lygisma angustifolia, Hook. f.



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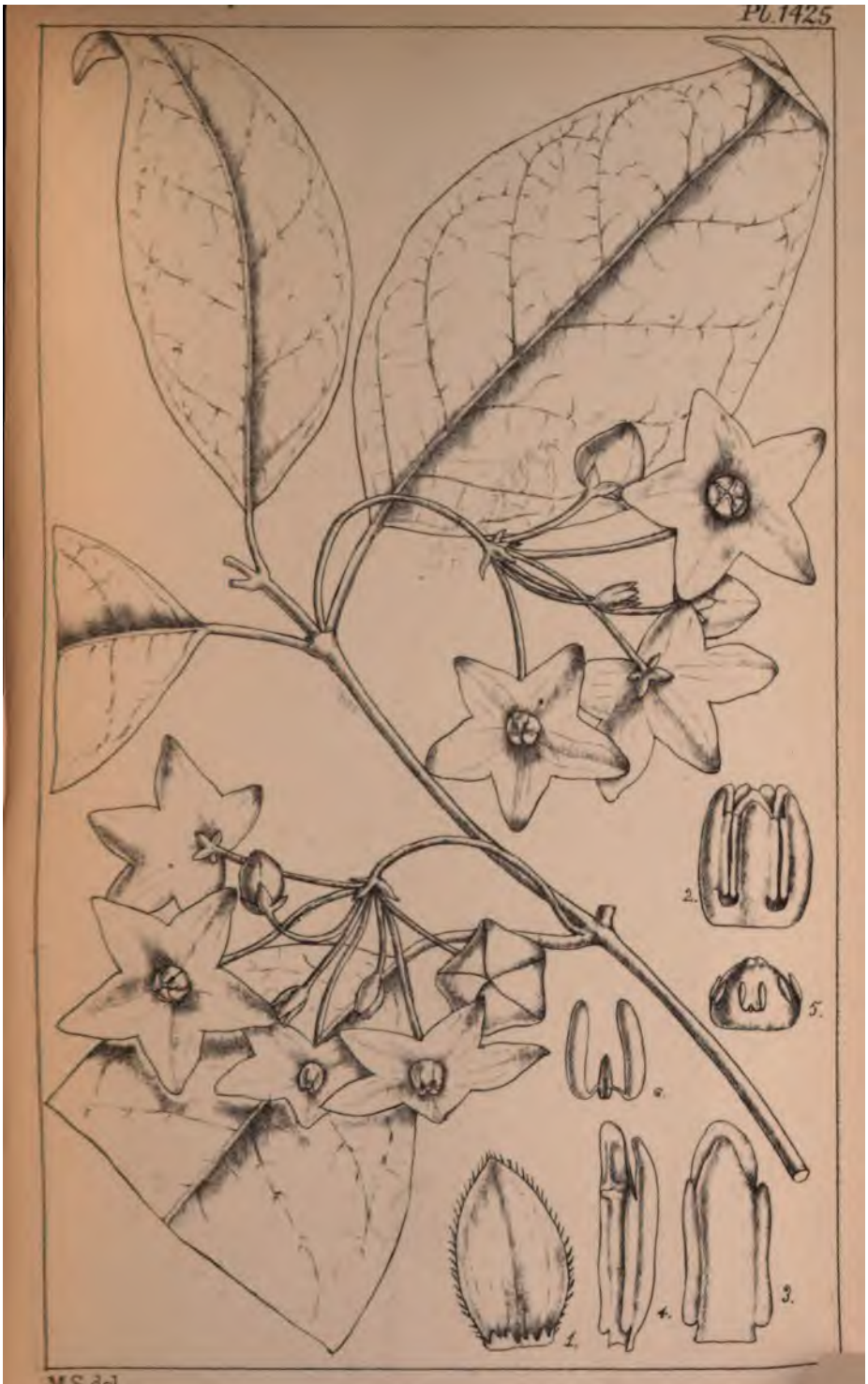

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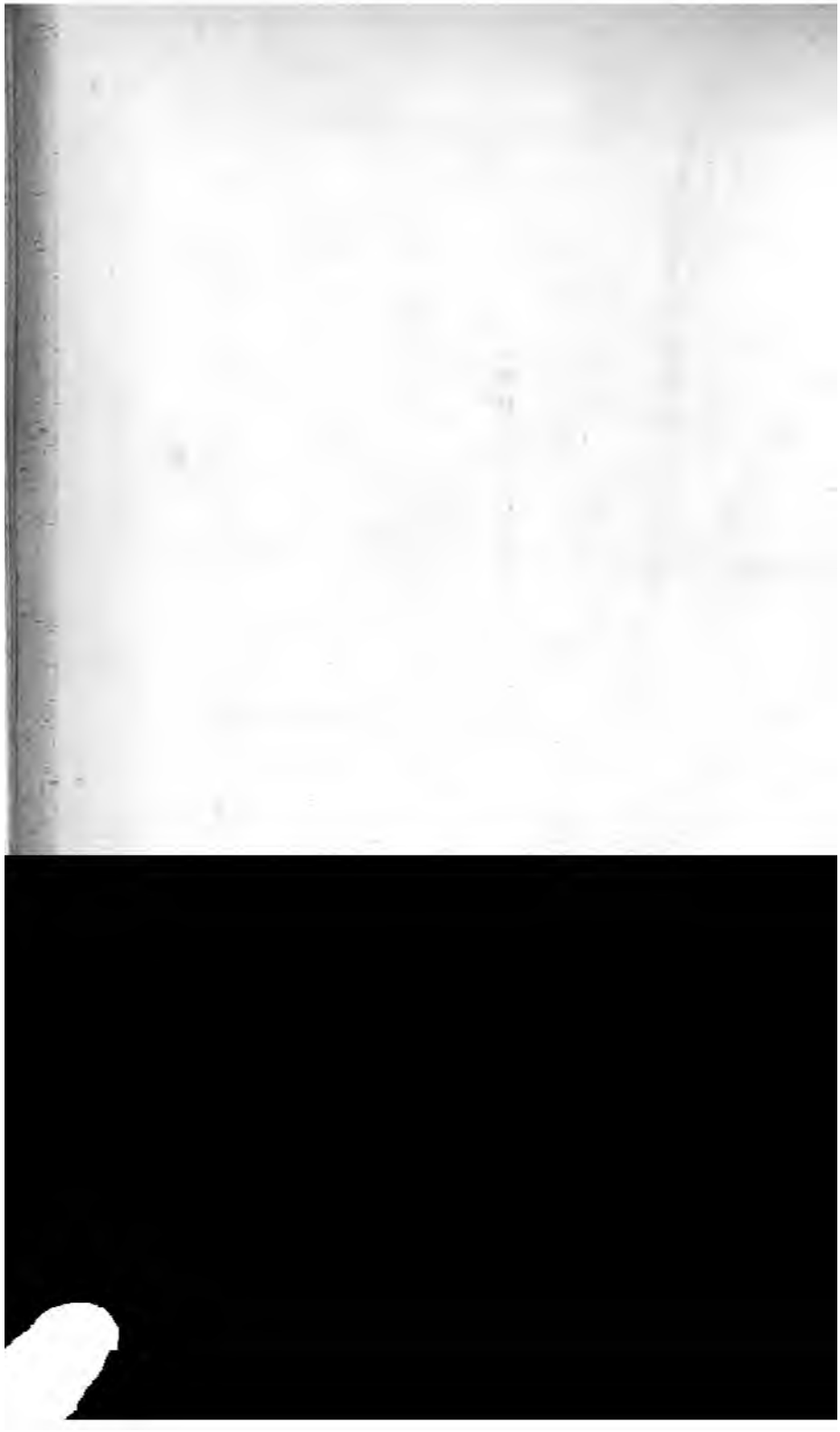

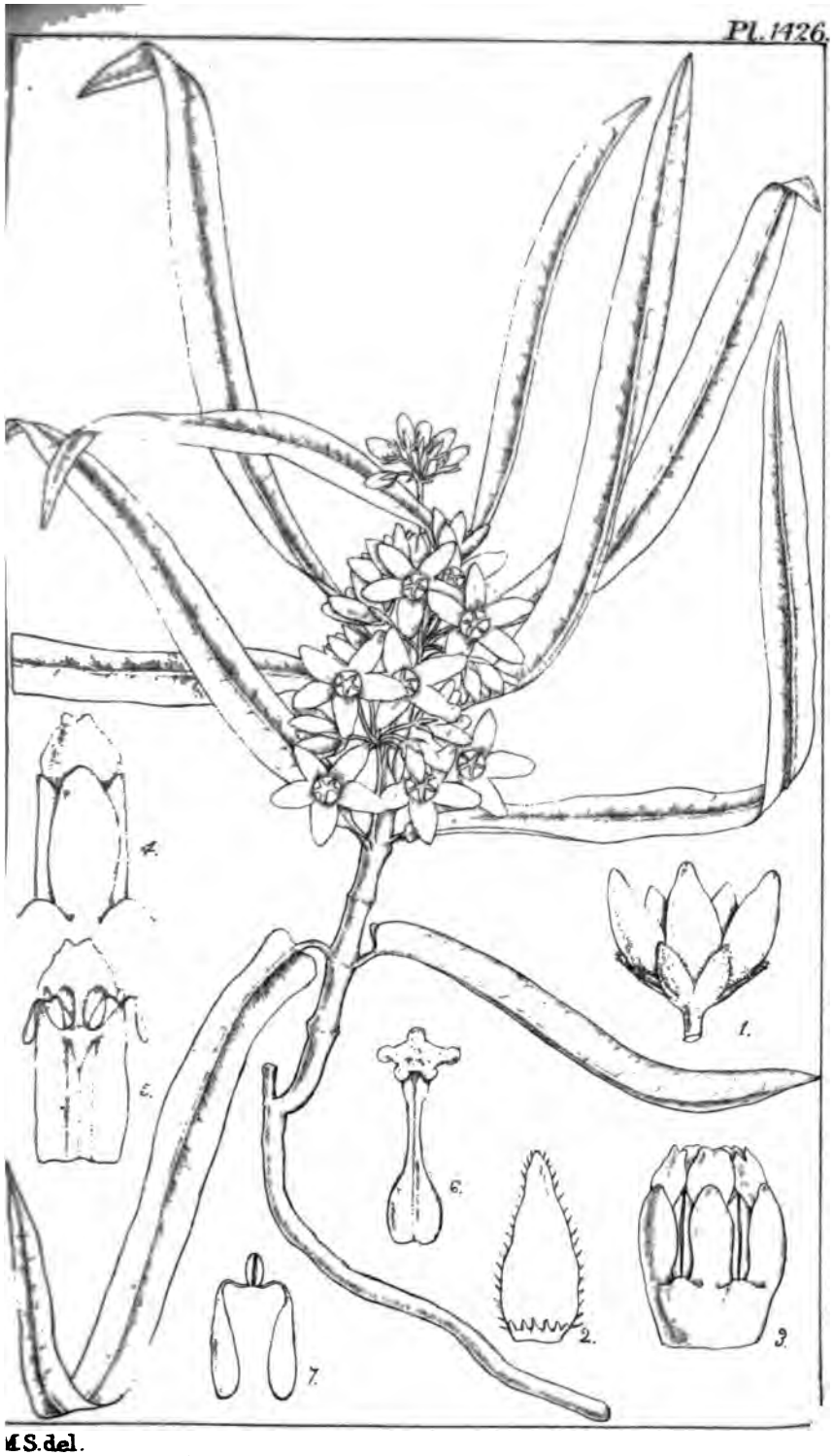

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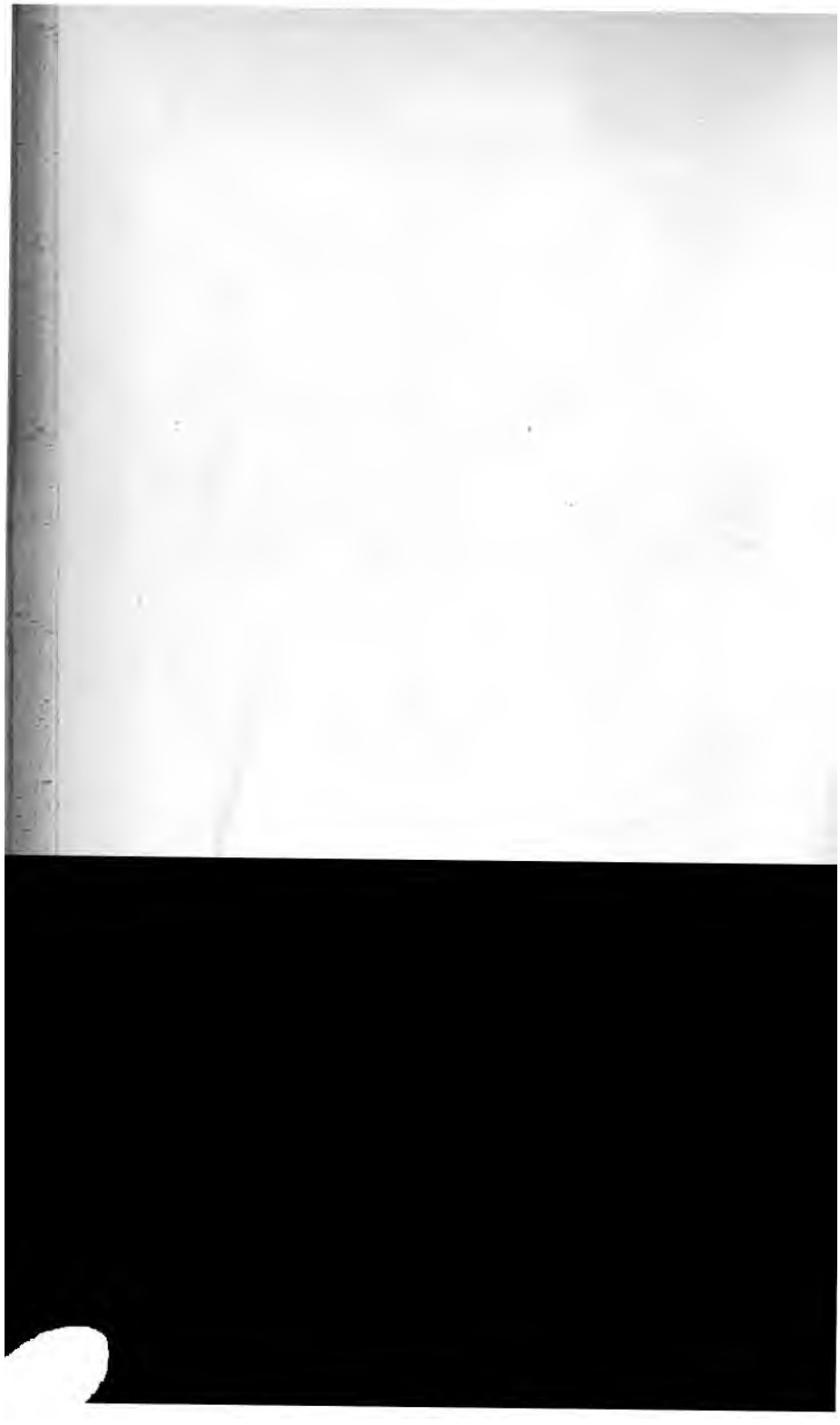

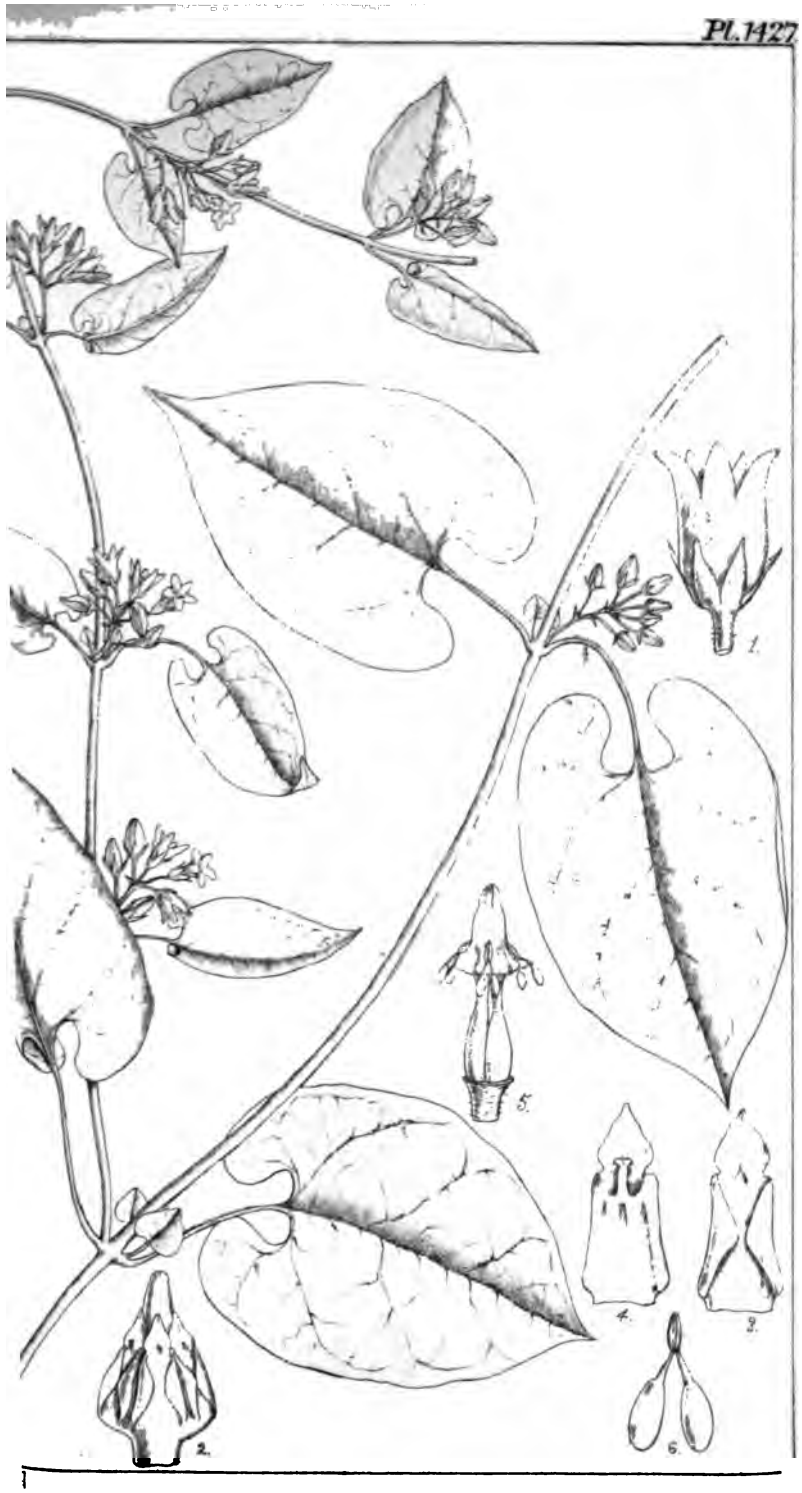

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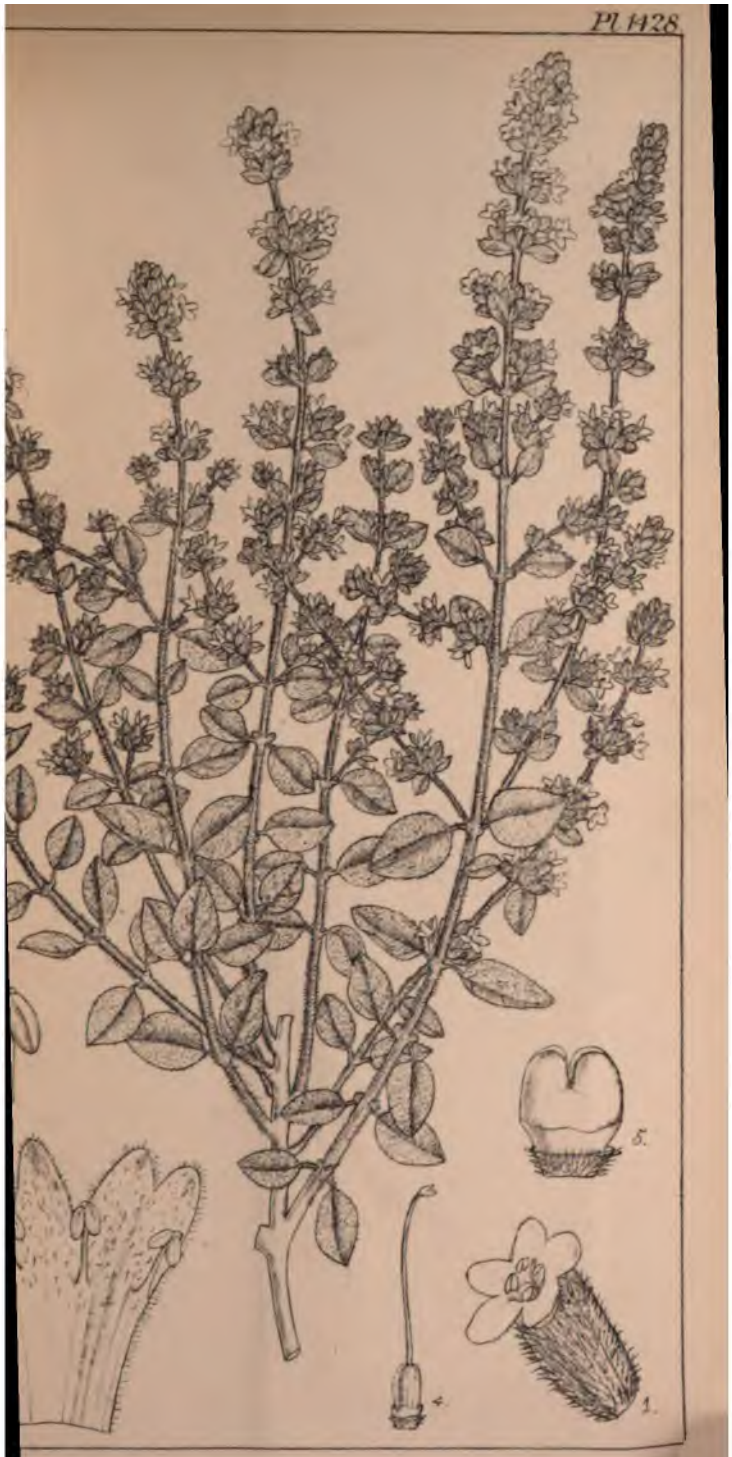

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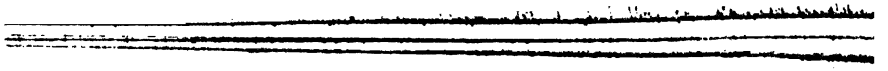
Flagellaria gigantea, Hook. f.



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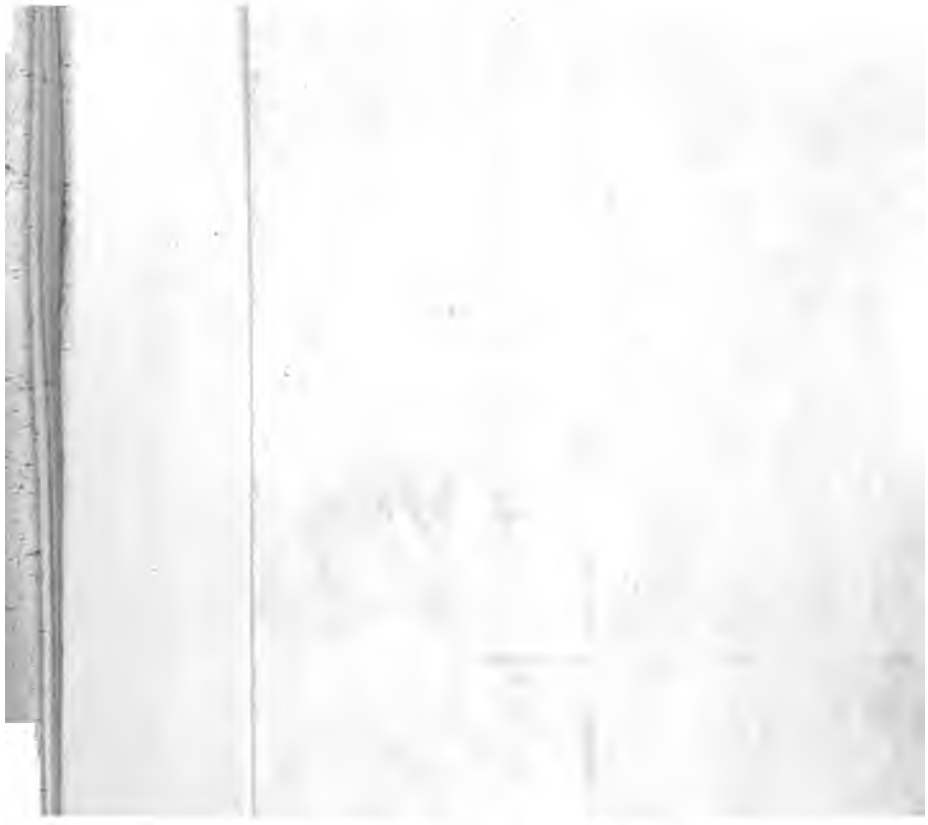

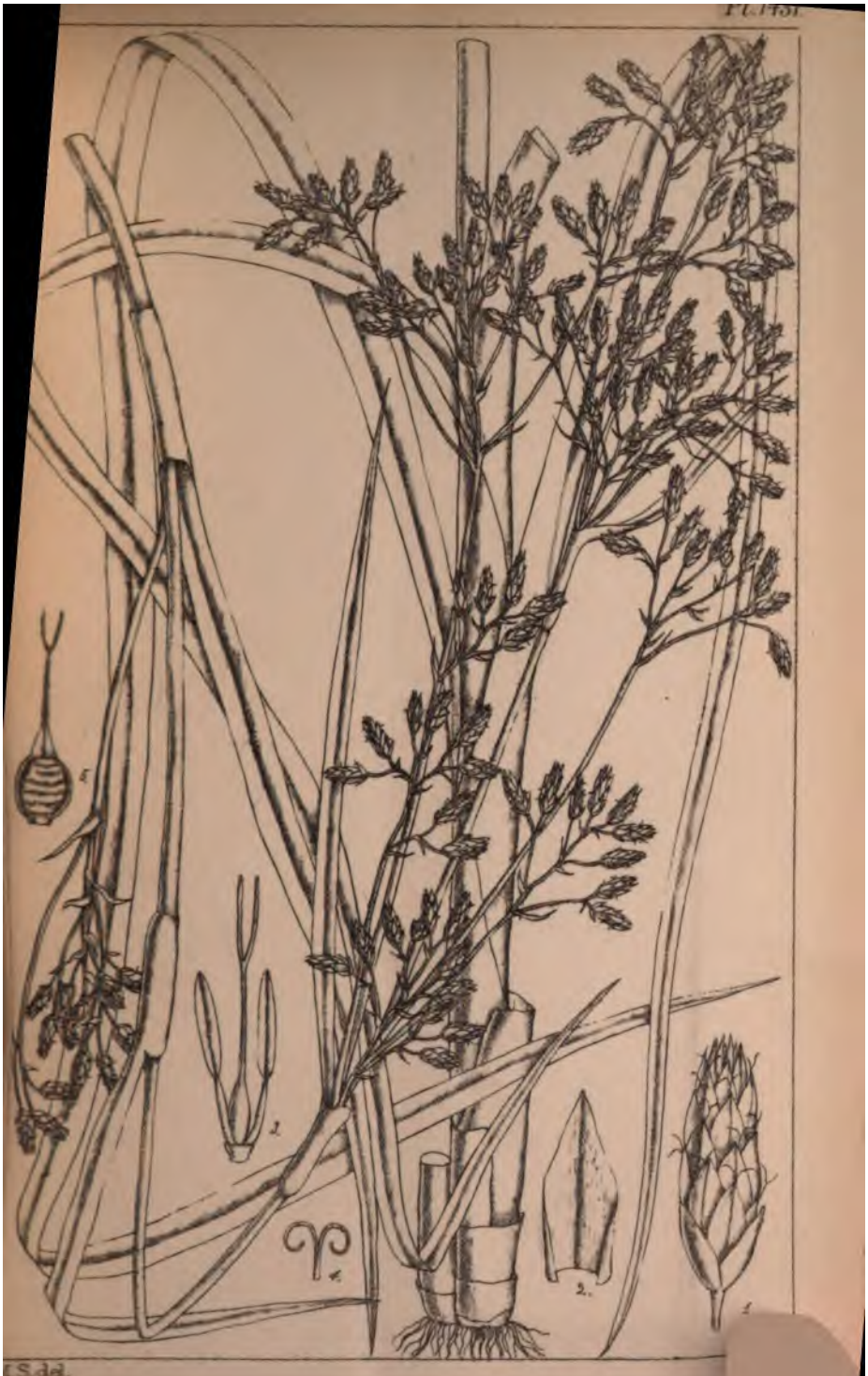

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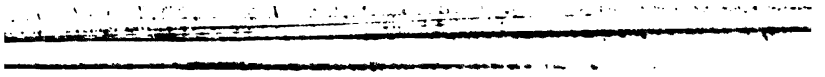

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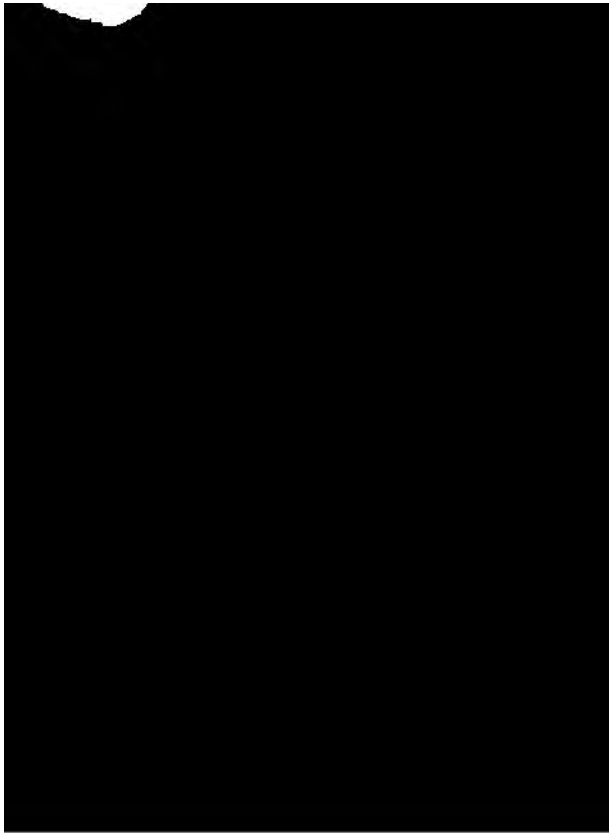

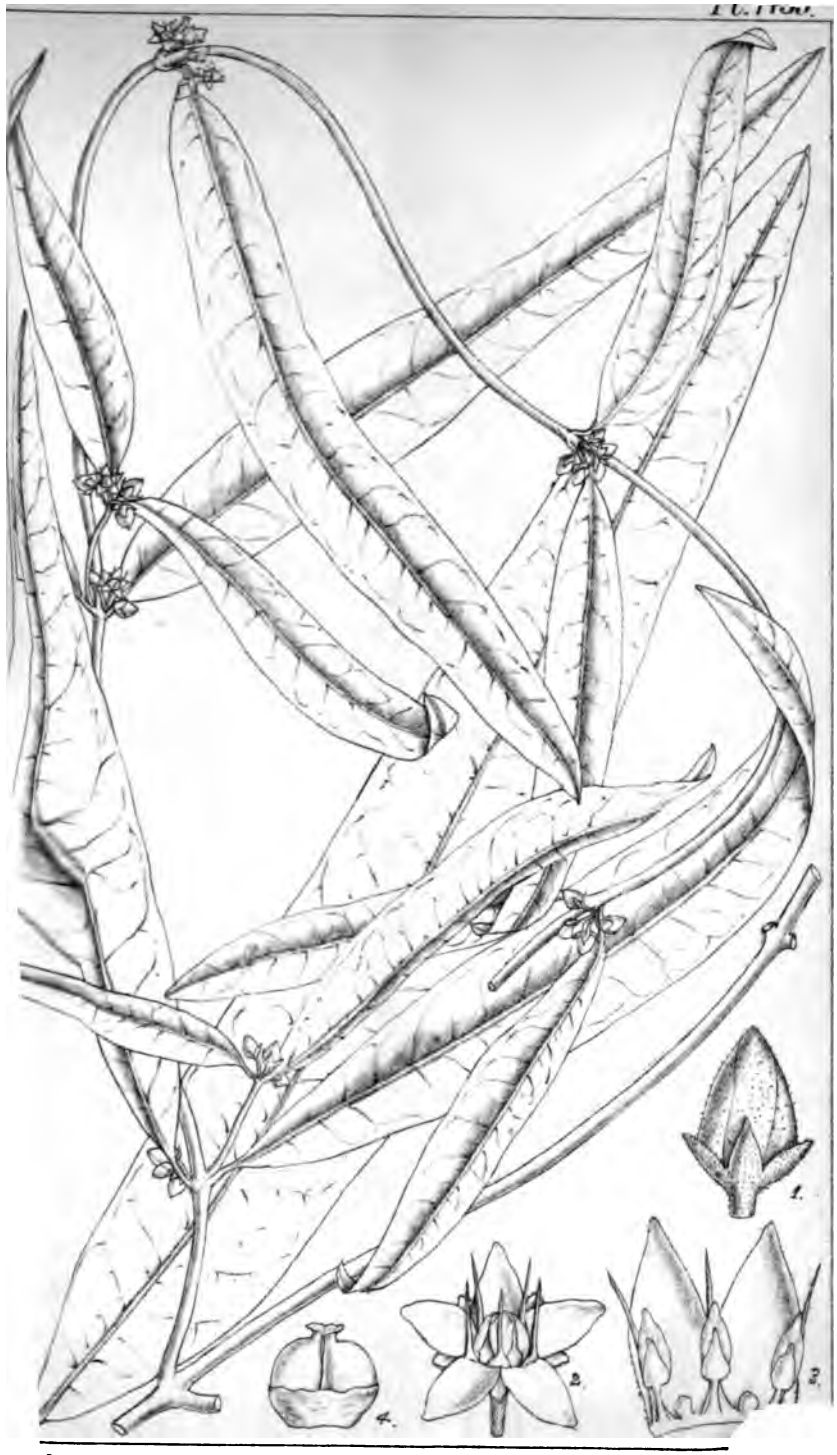

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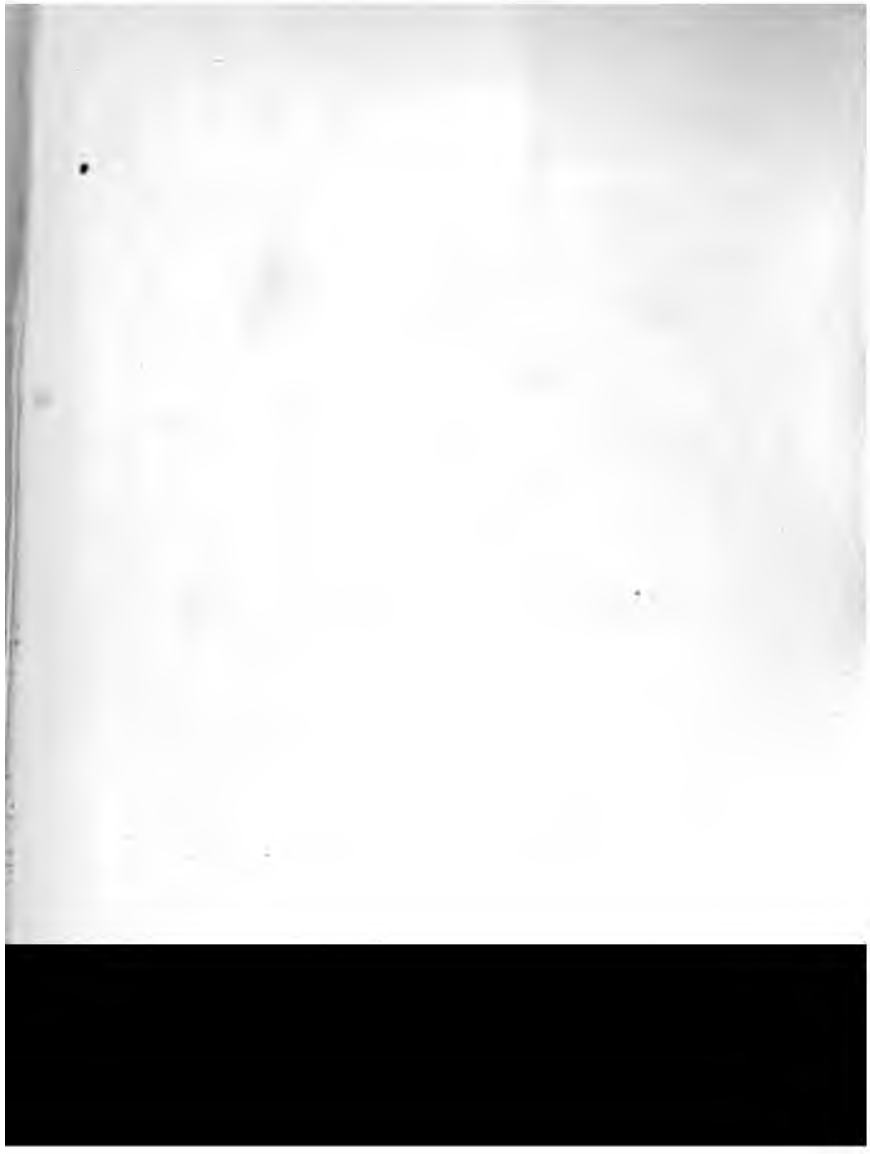

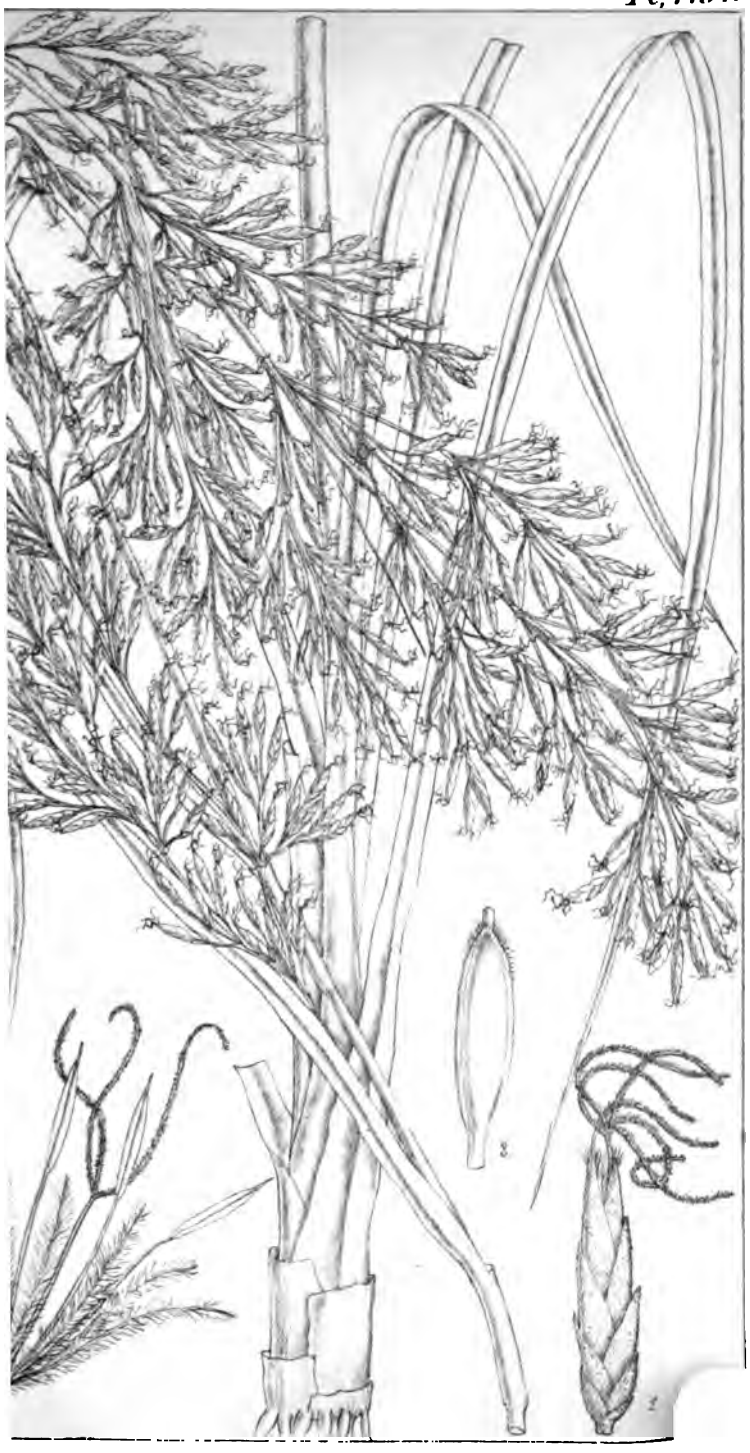

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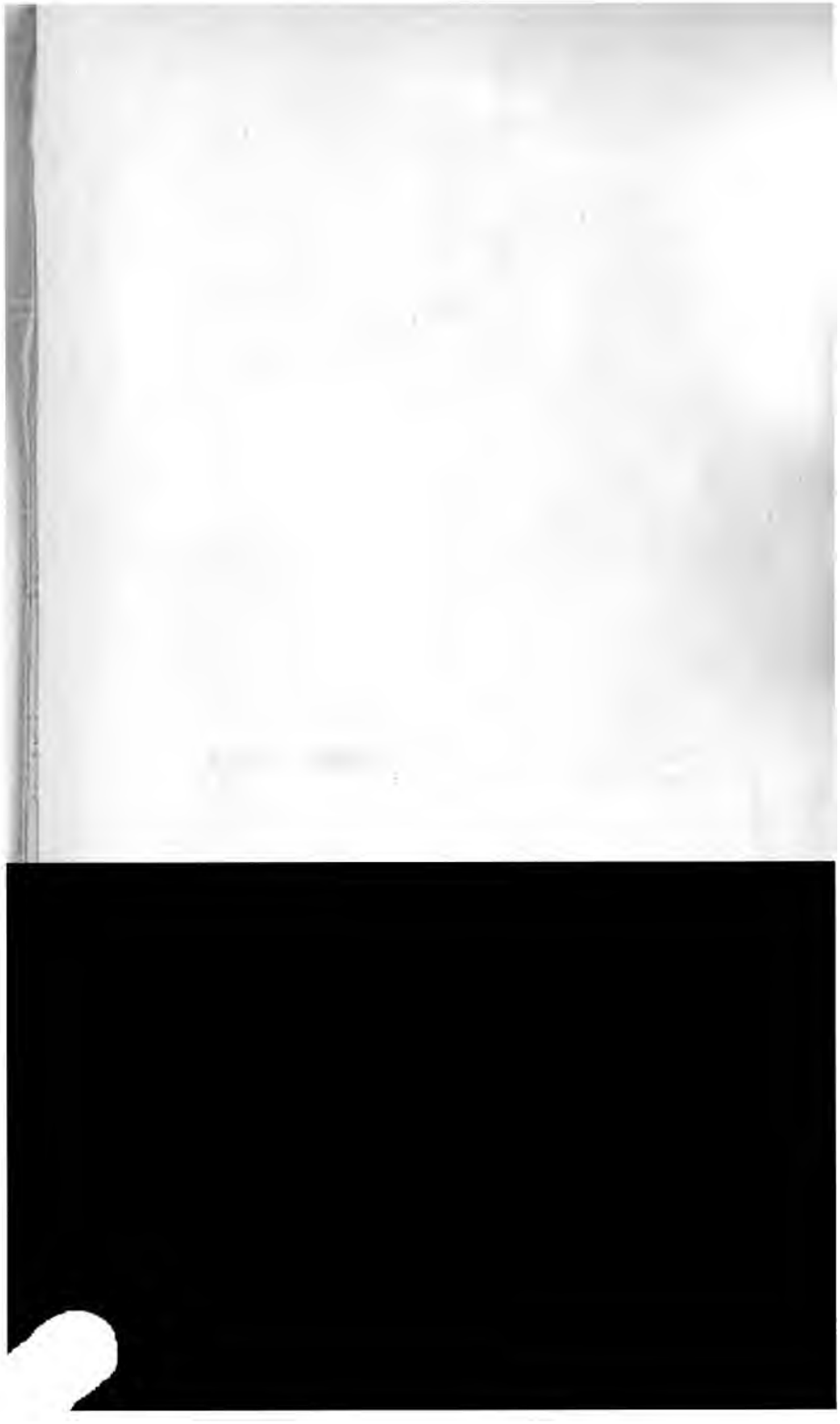

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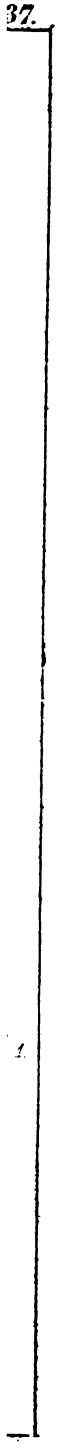

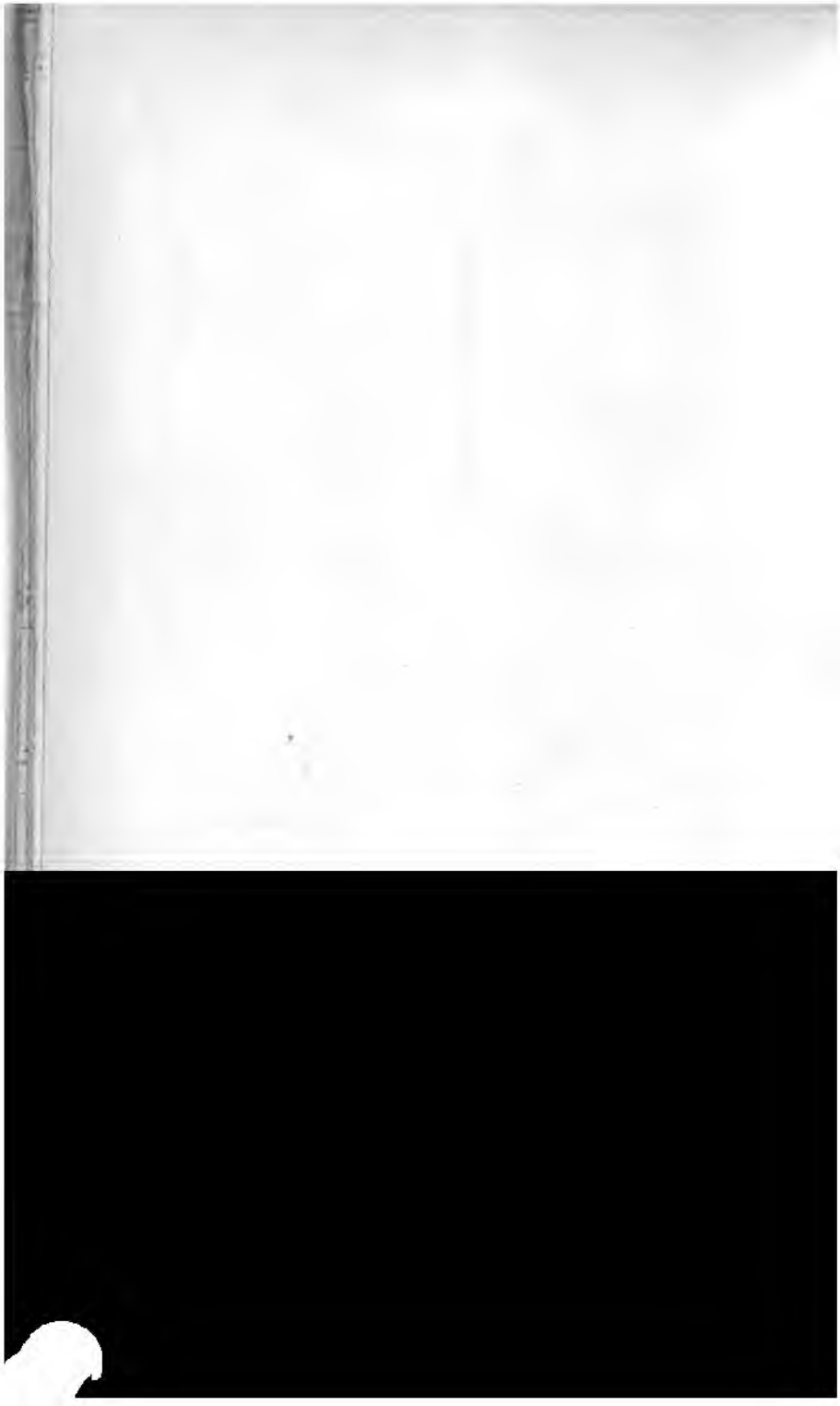

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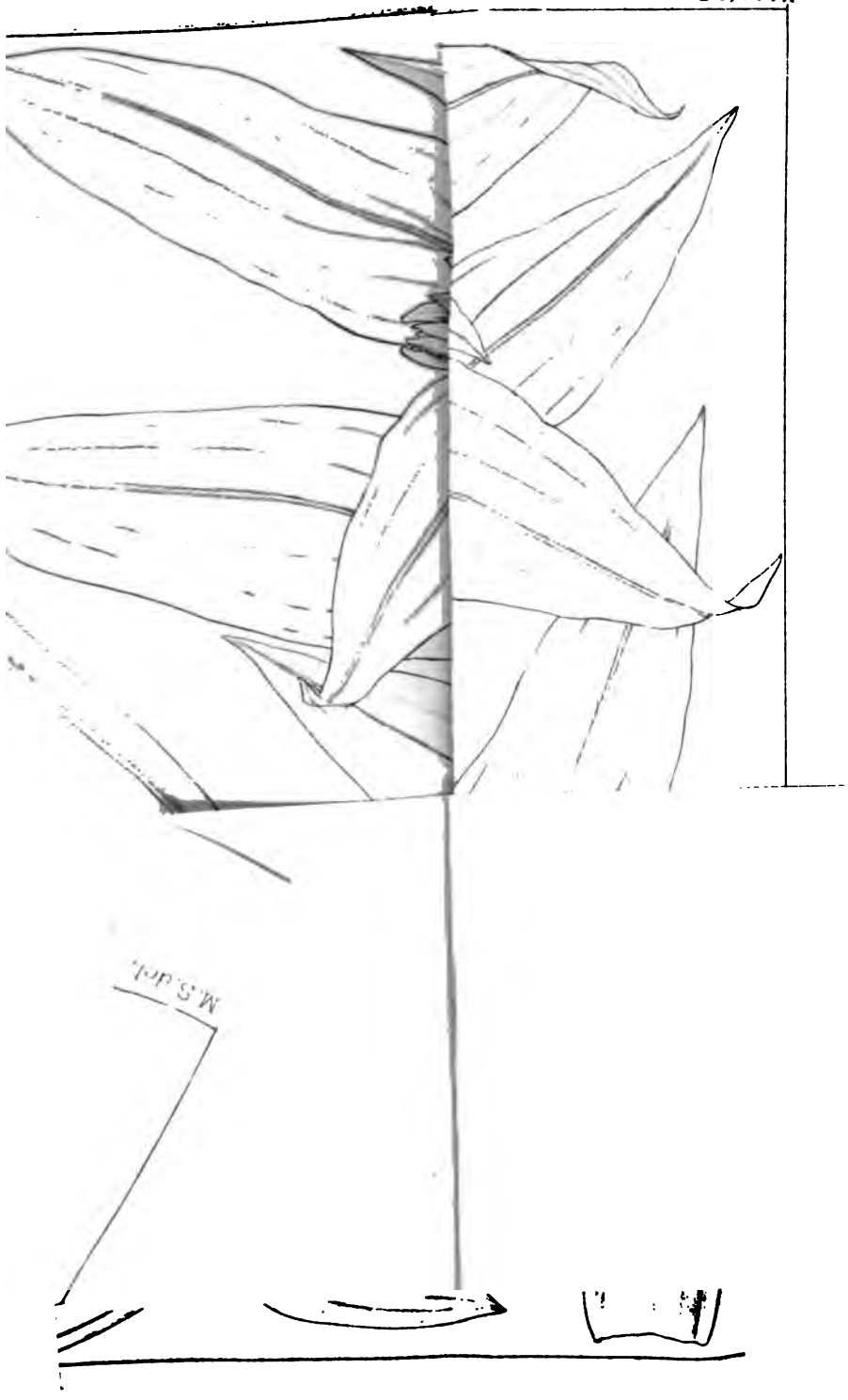

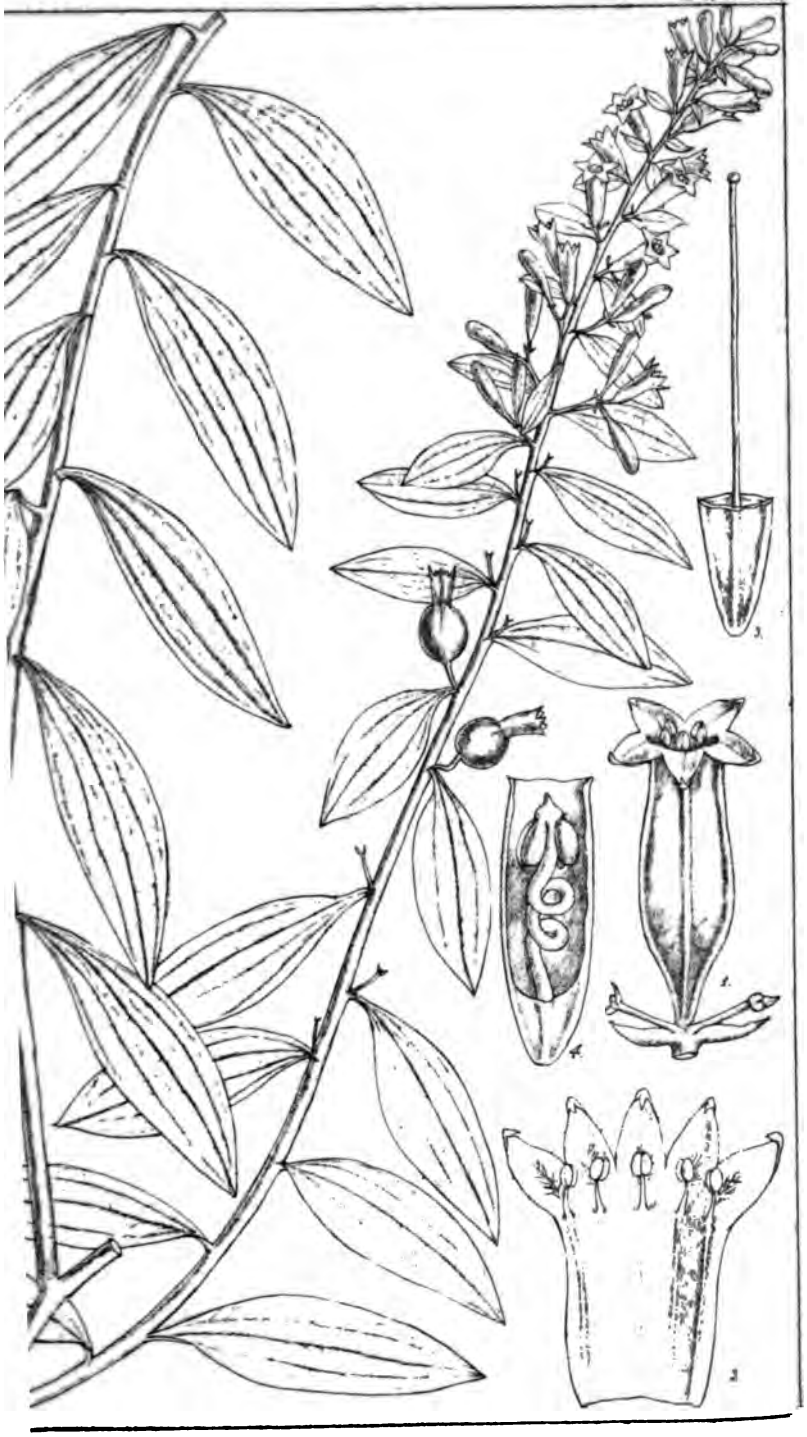

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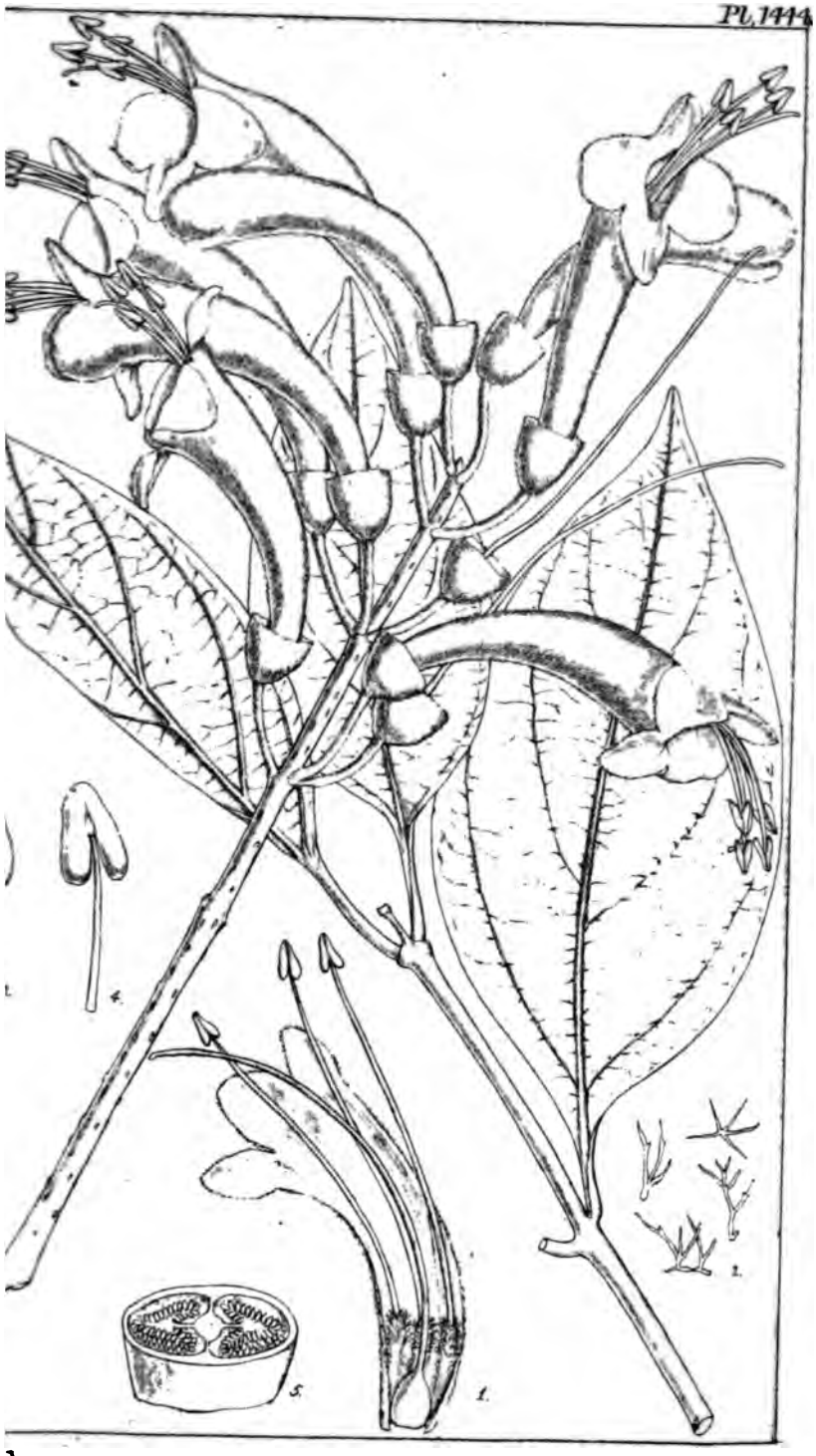
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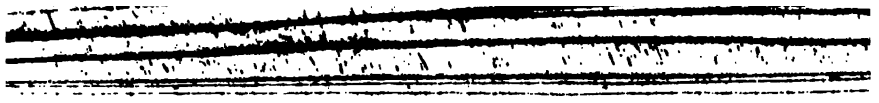

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Bouchea Hanninglonii, Oliv.


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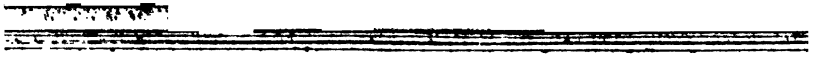
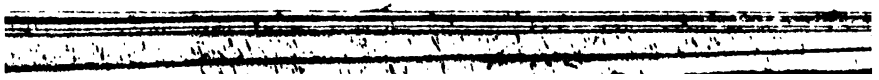
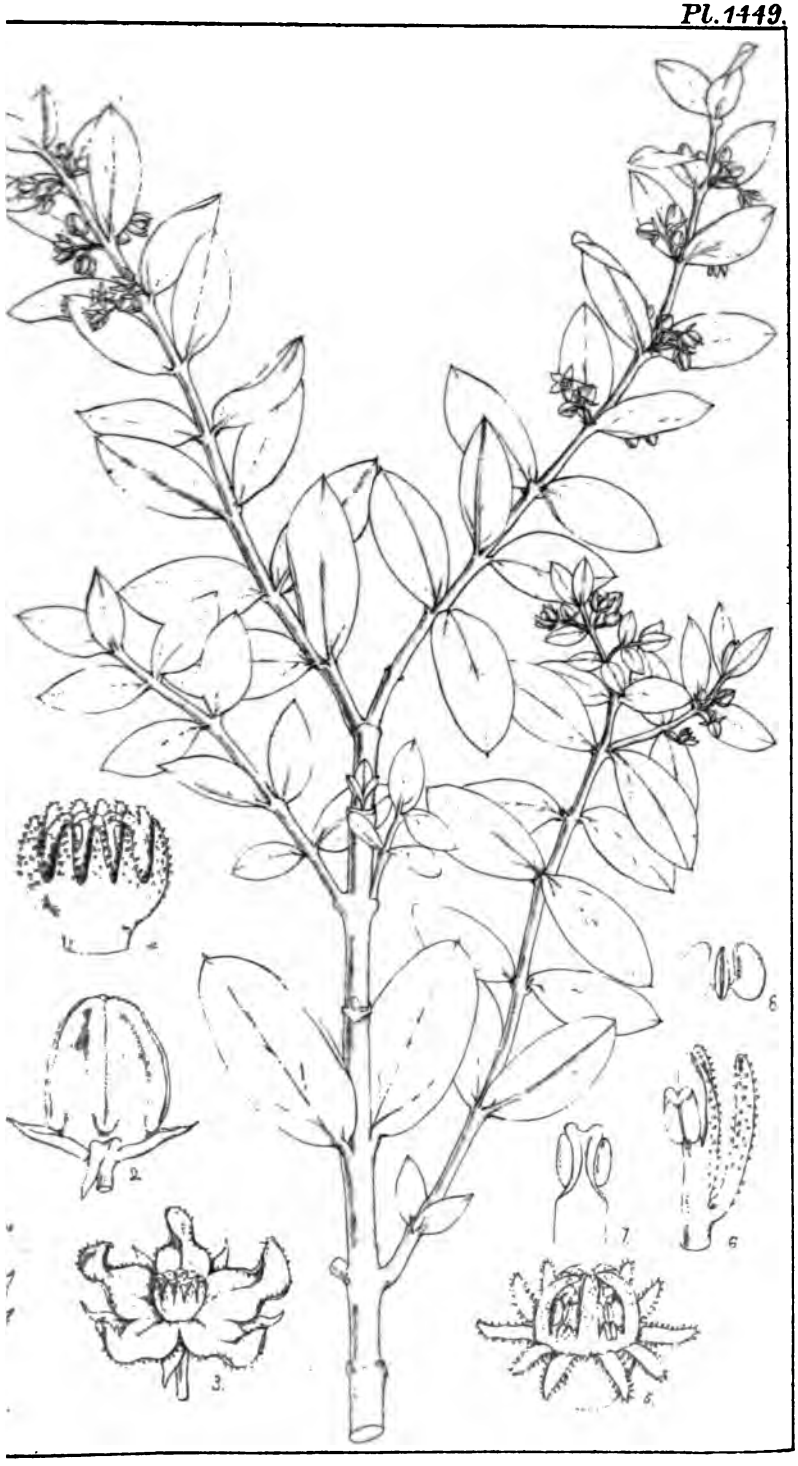
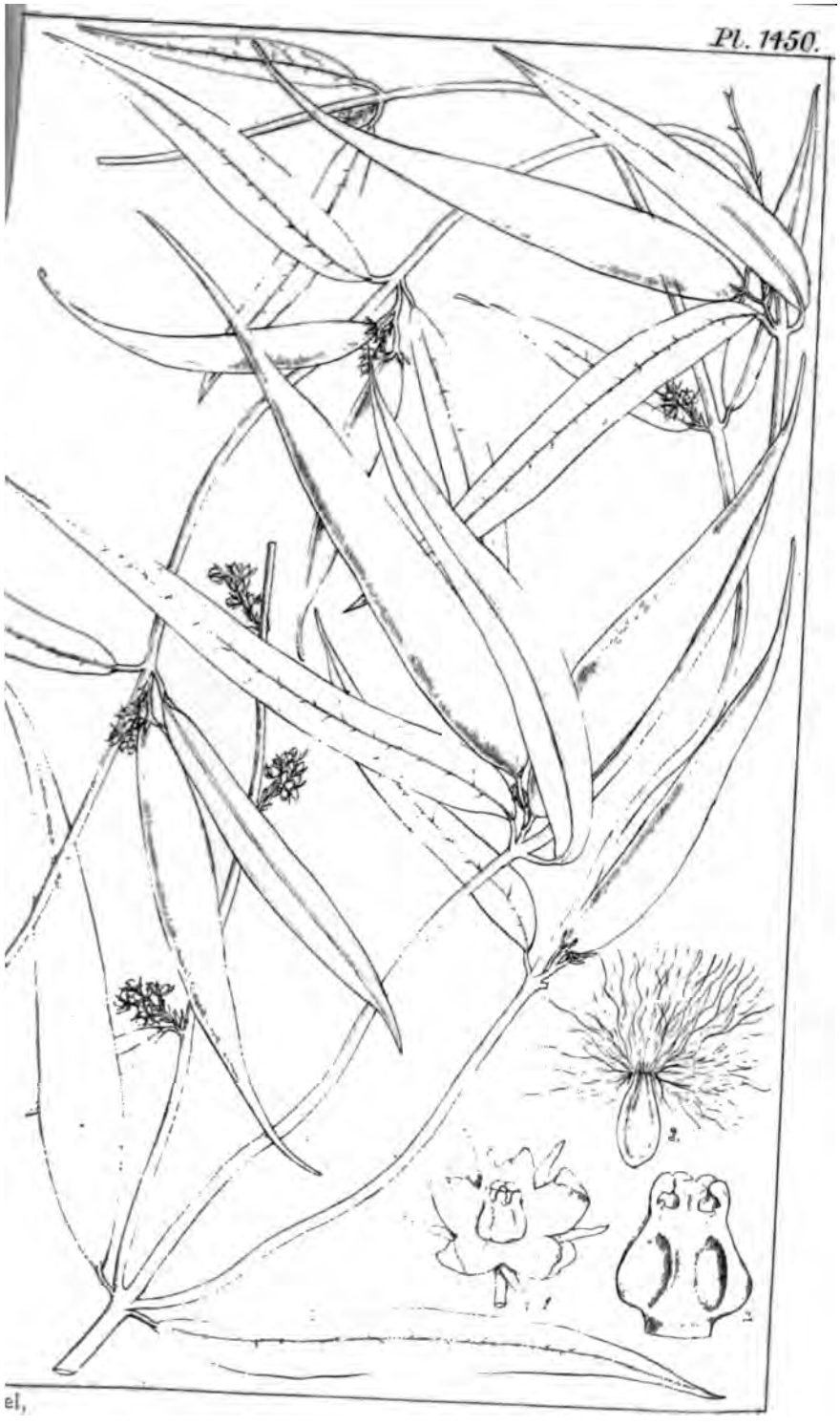


Gardenia Storckii, Oliv.

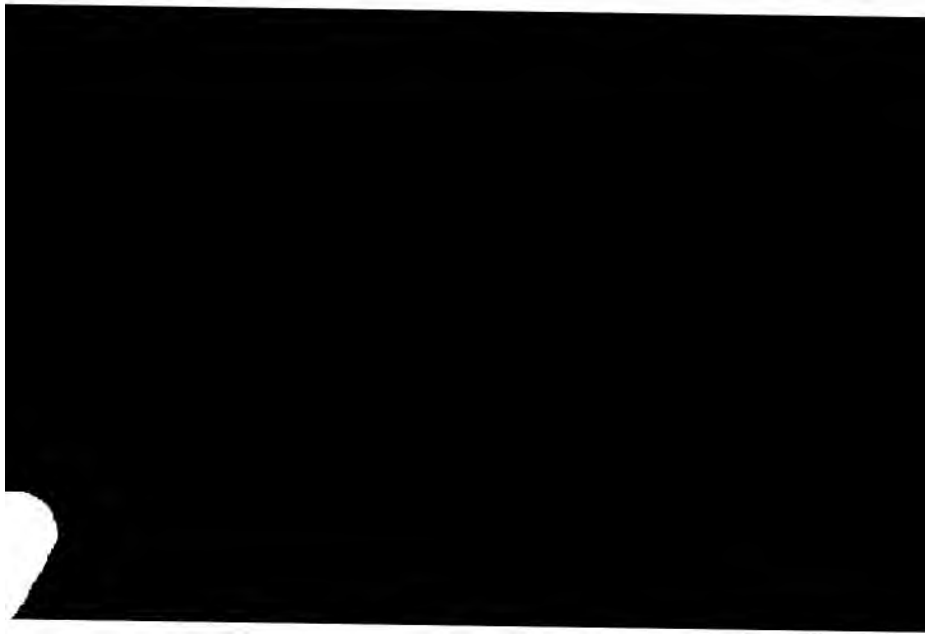




Lasiostelma Sandersoni, Oliv.

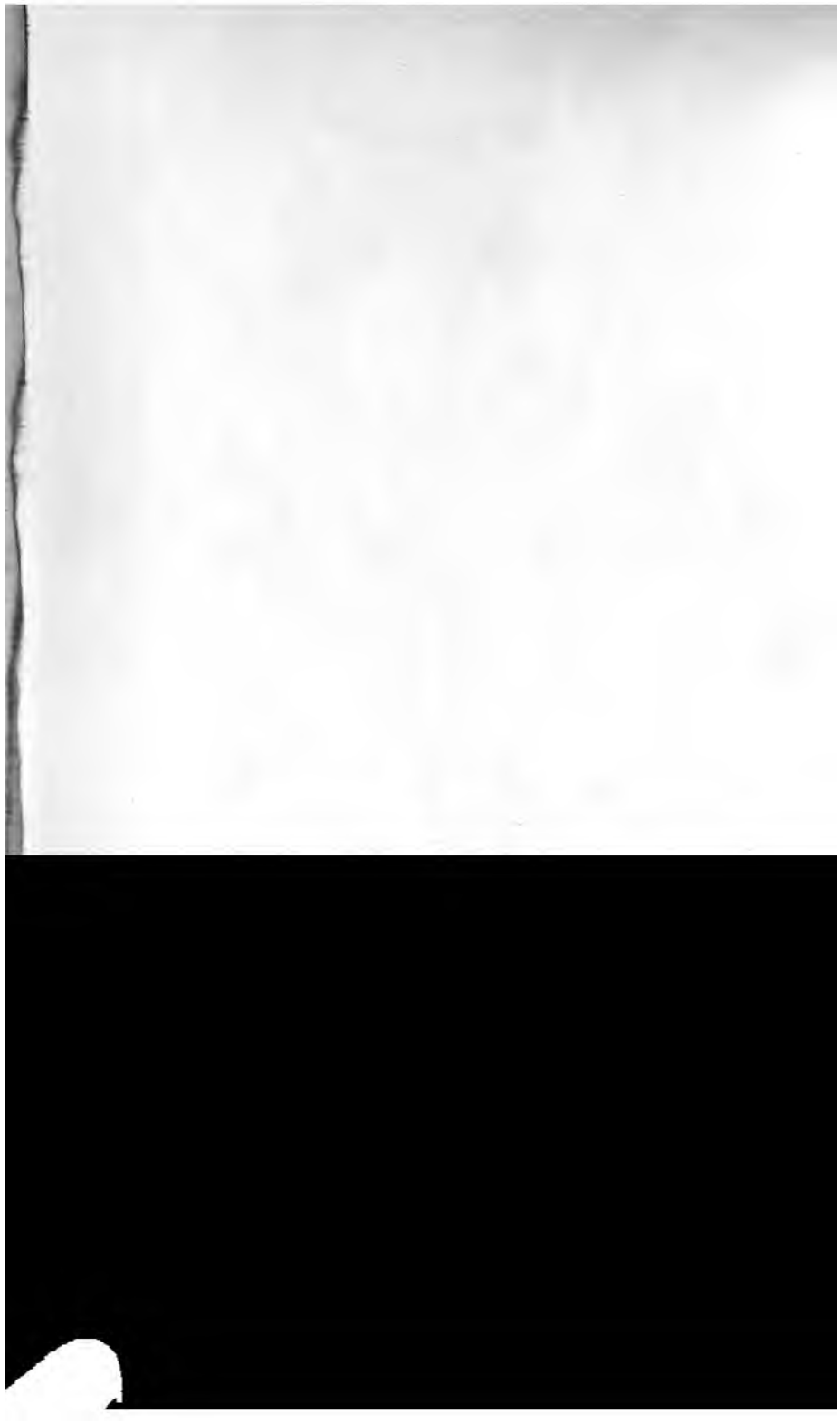


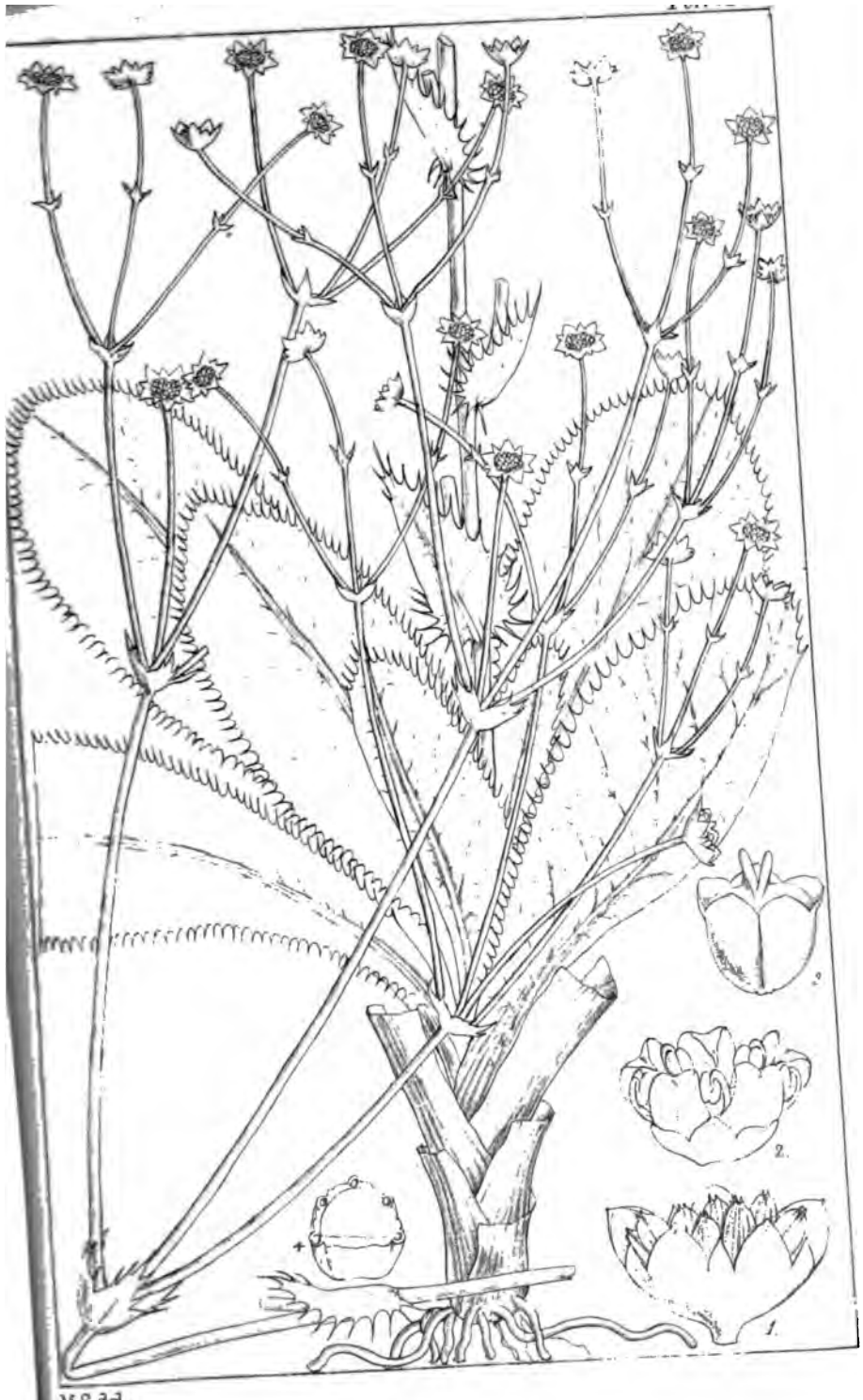
Tylophora microstachys, Hk.f



M. S. del.

Sphacophyllum Kirkii, Oliv.

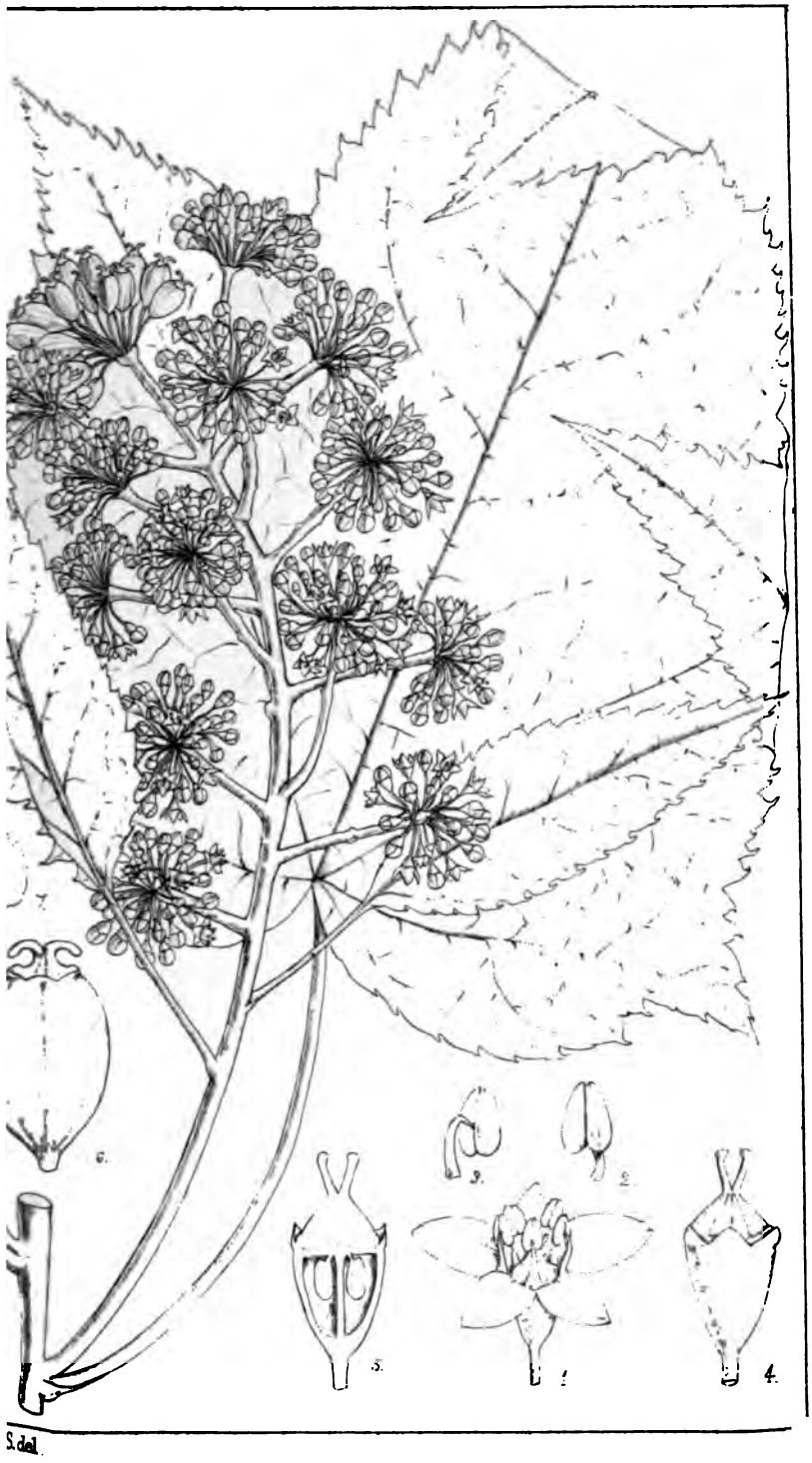




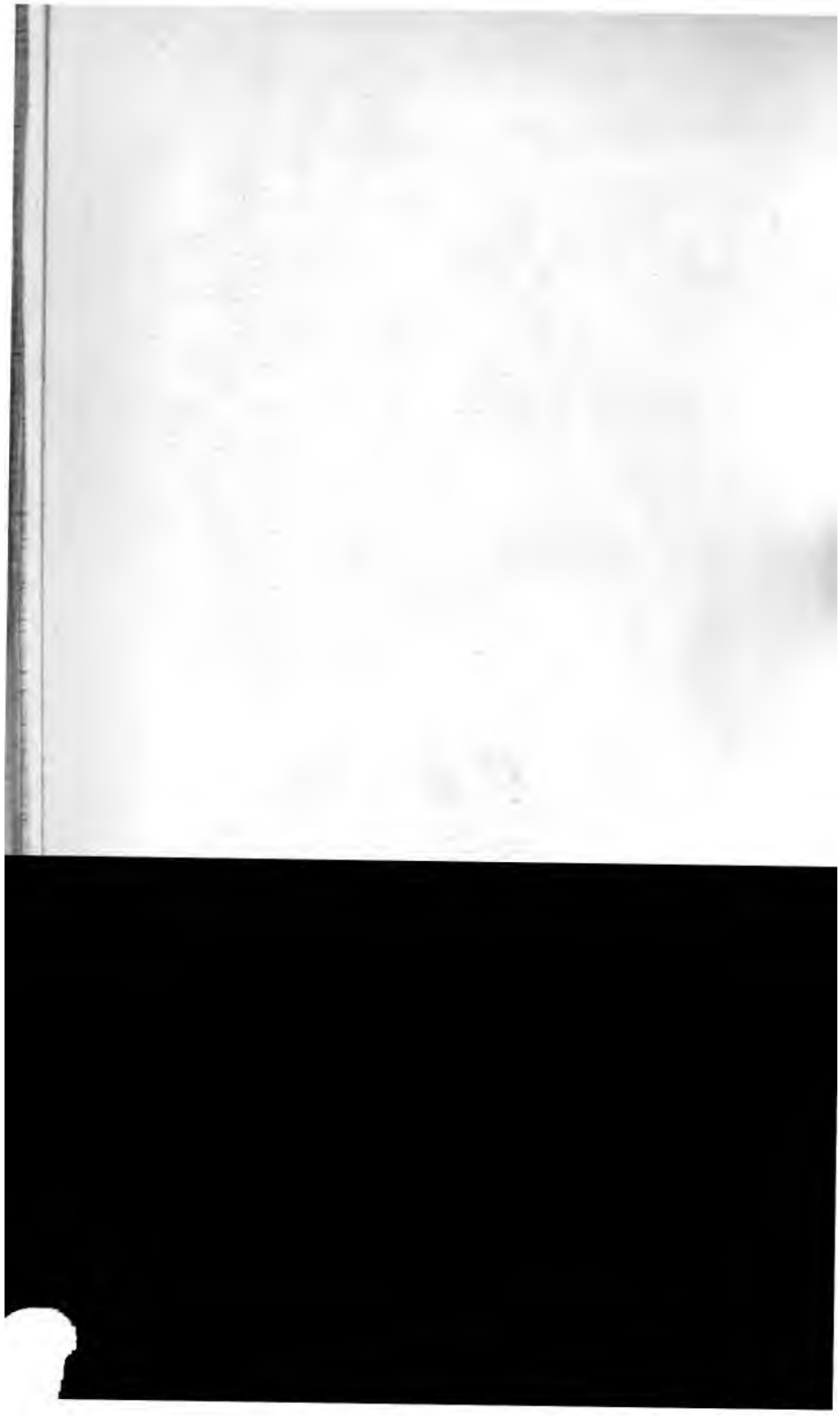
Alepidea Woodii, Oliv.

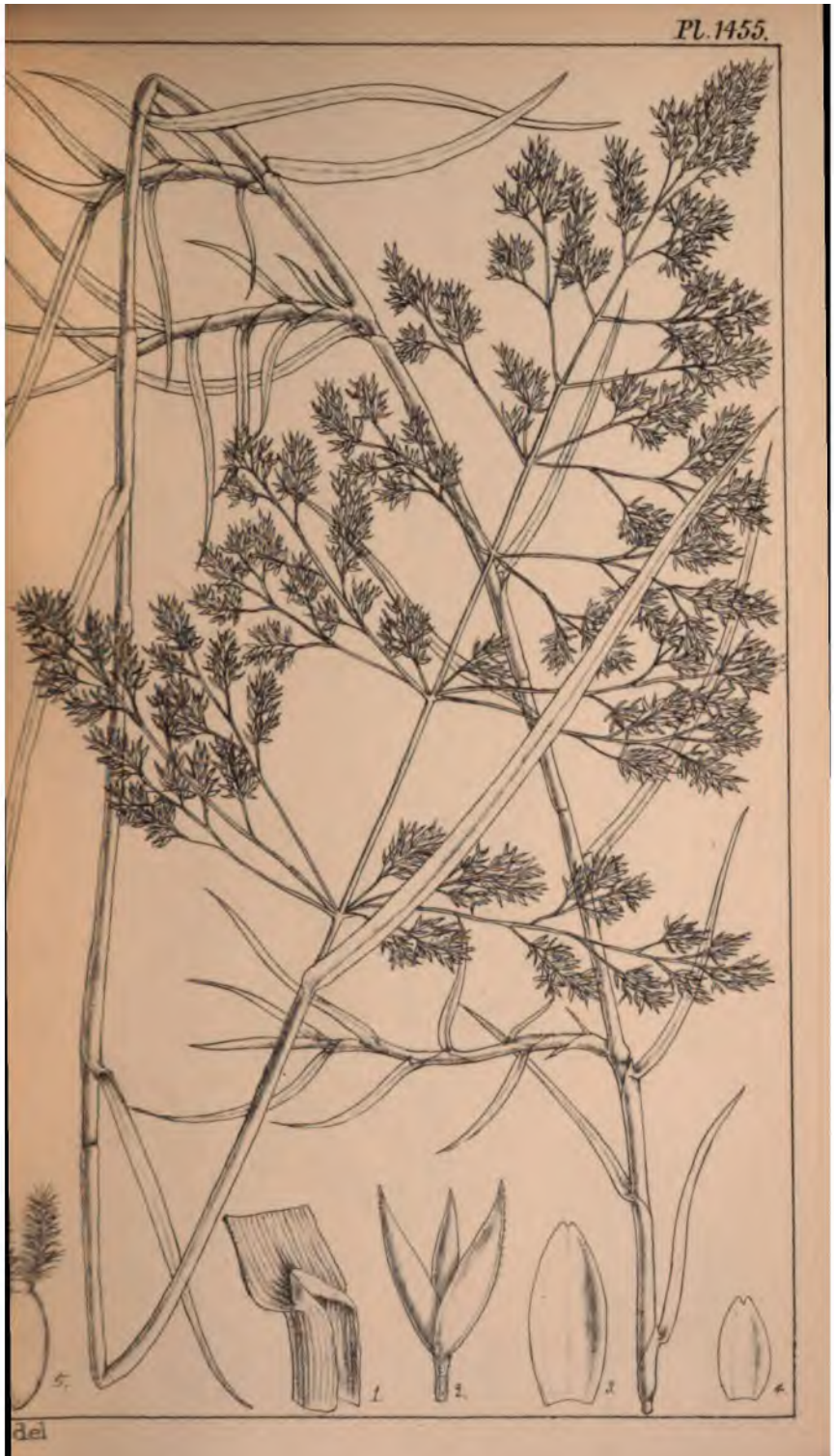
M. S. del.

Oliophora cupheoides, N.E. Br.

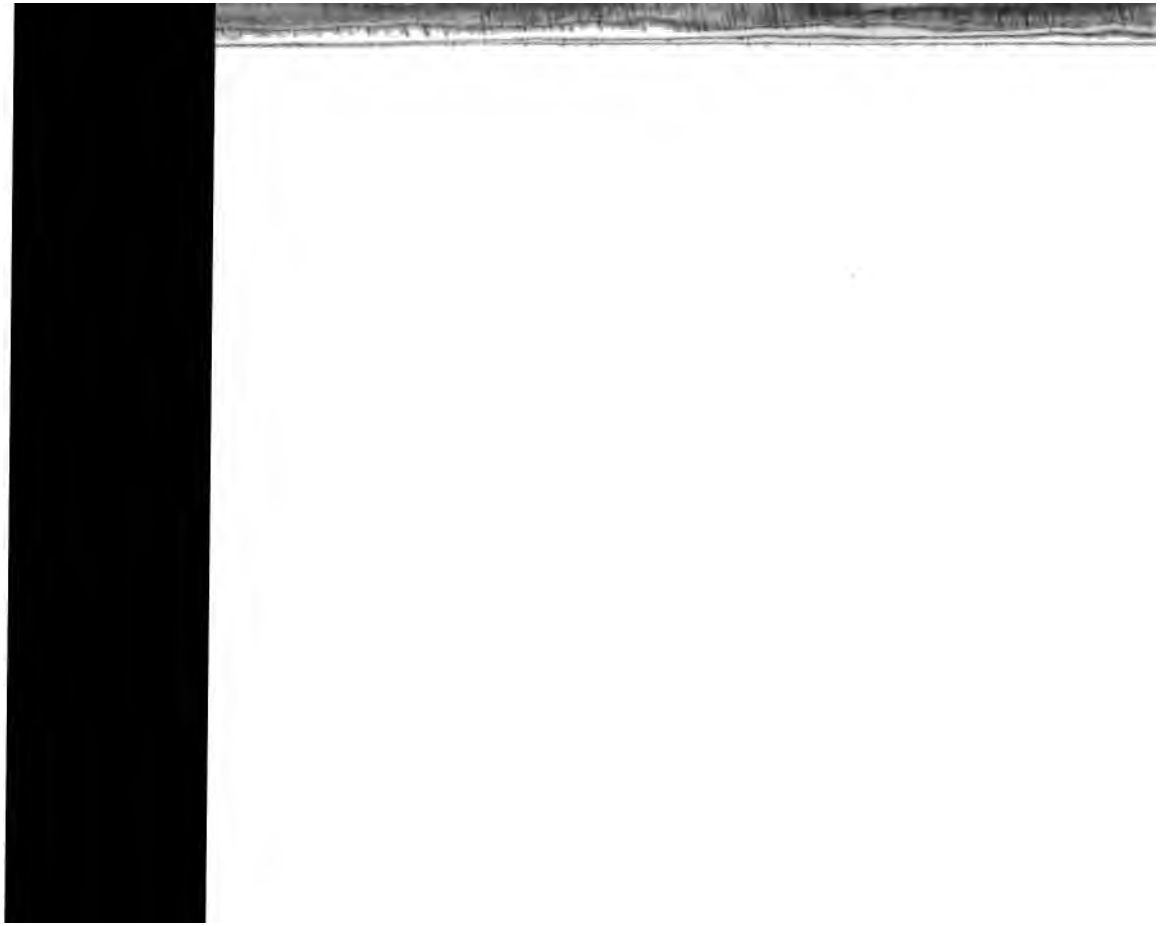


Cussonia Gerrardi, Seem.

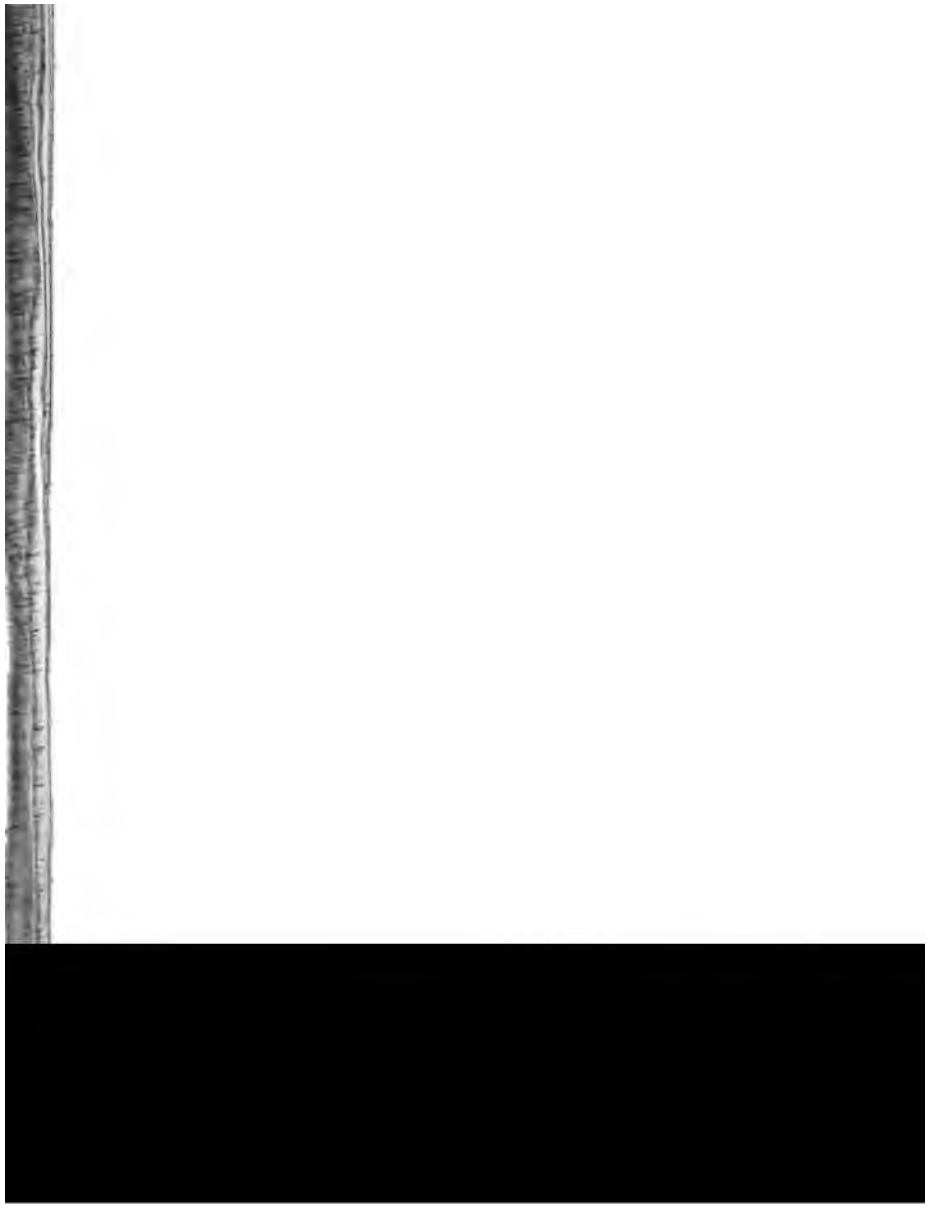


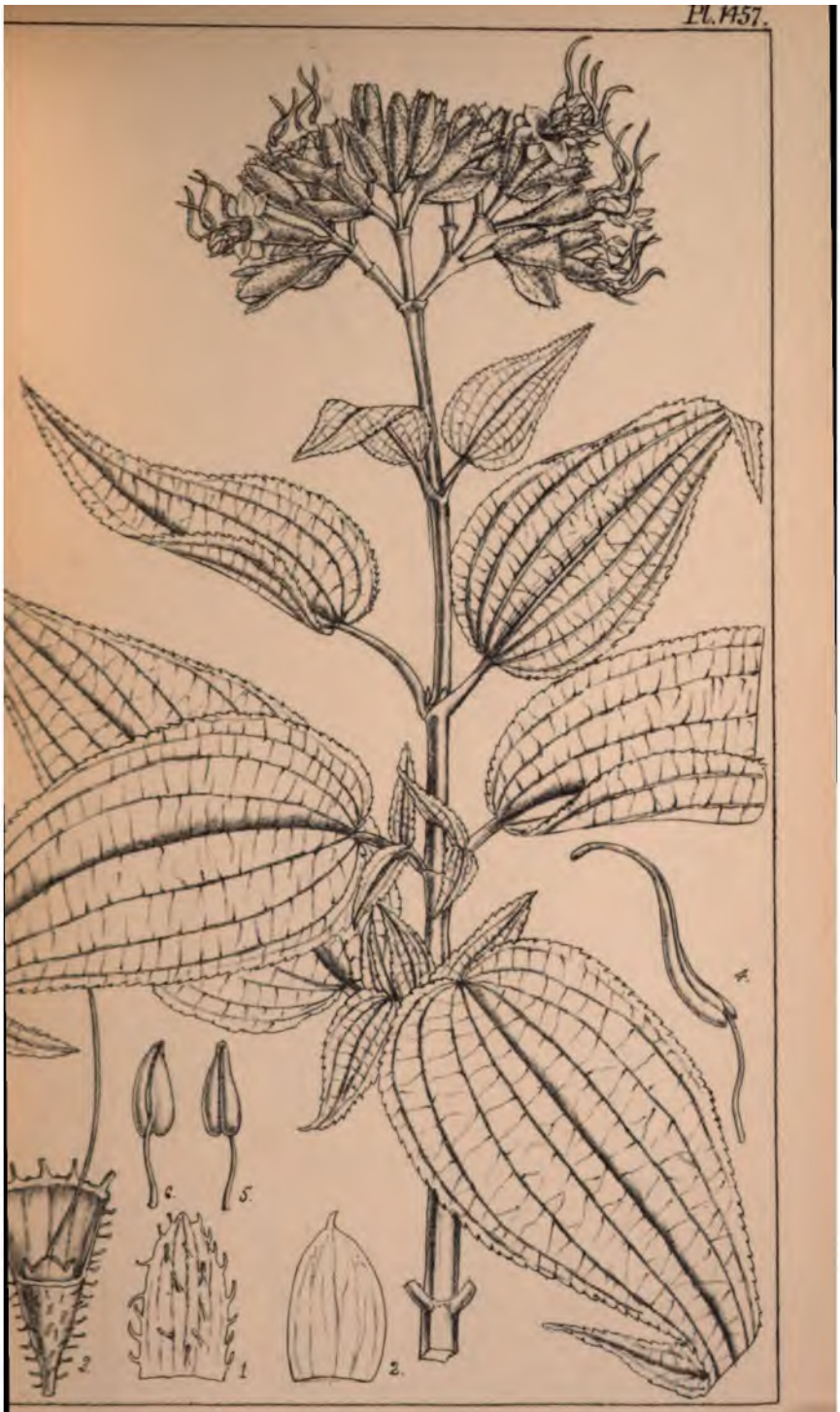


Agrostis simulans, Hemsl.



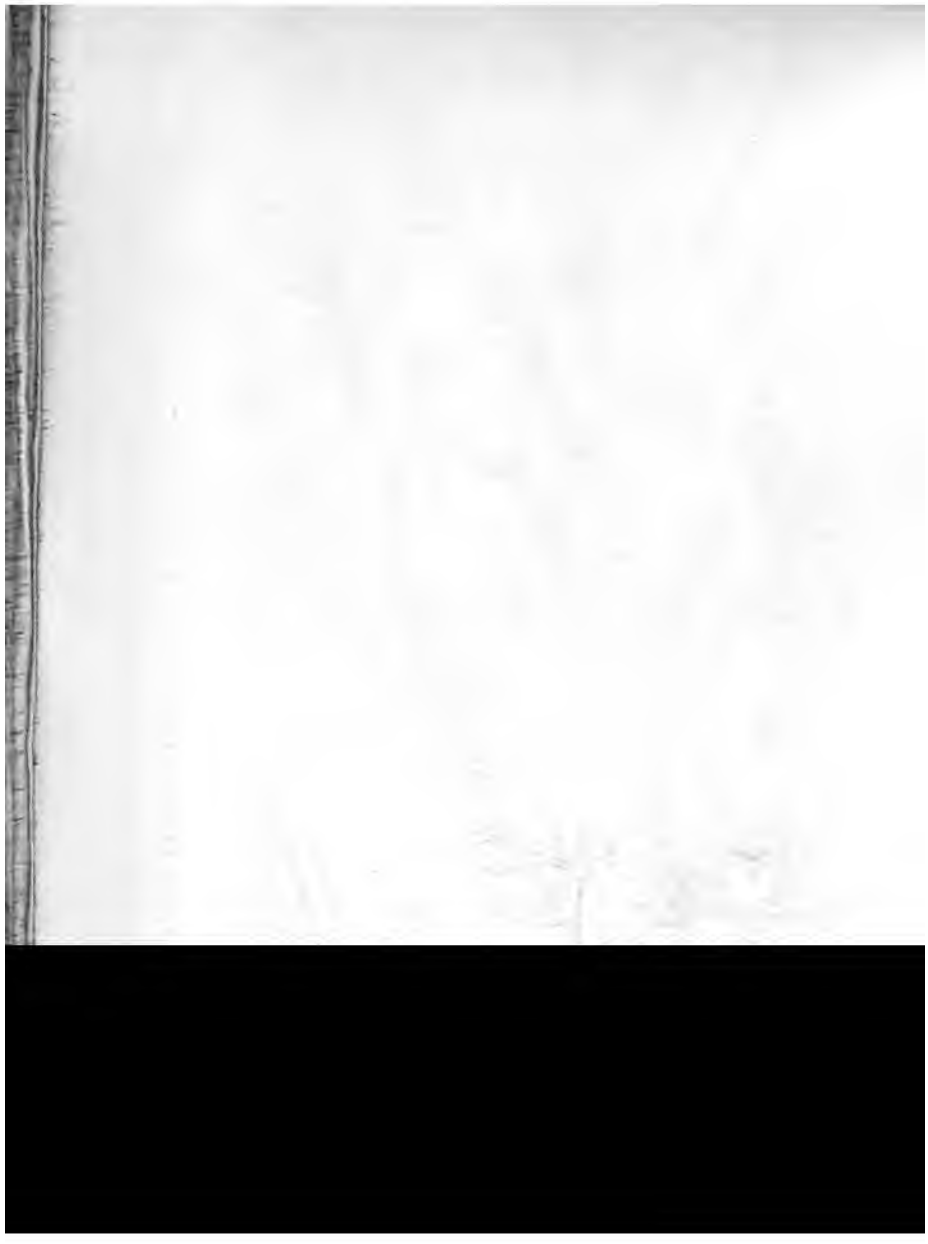
Senecio Bolusii, Oliv.



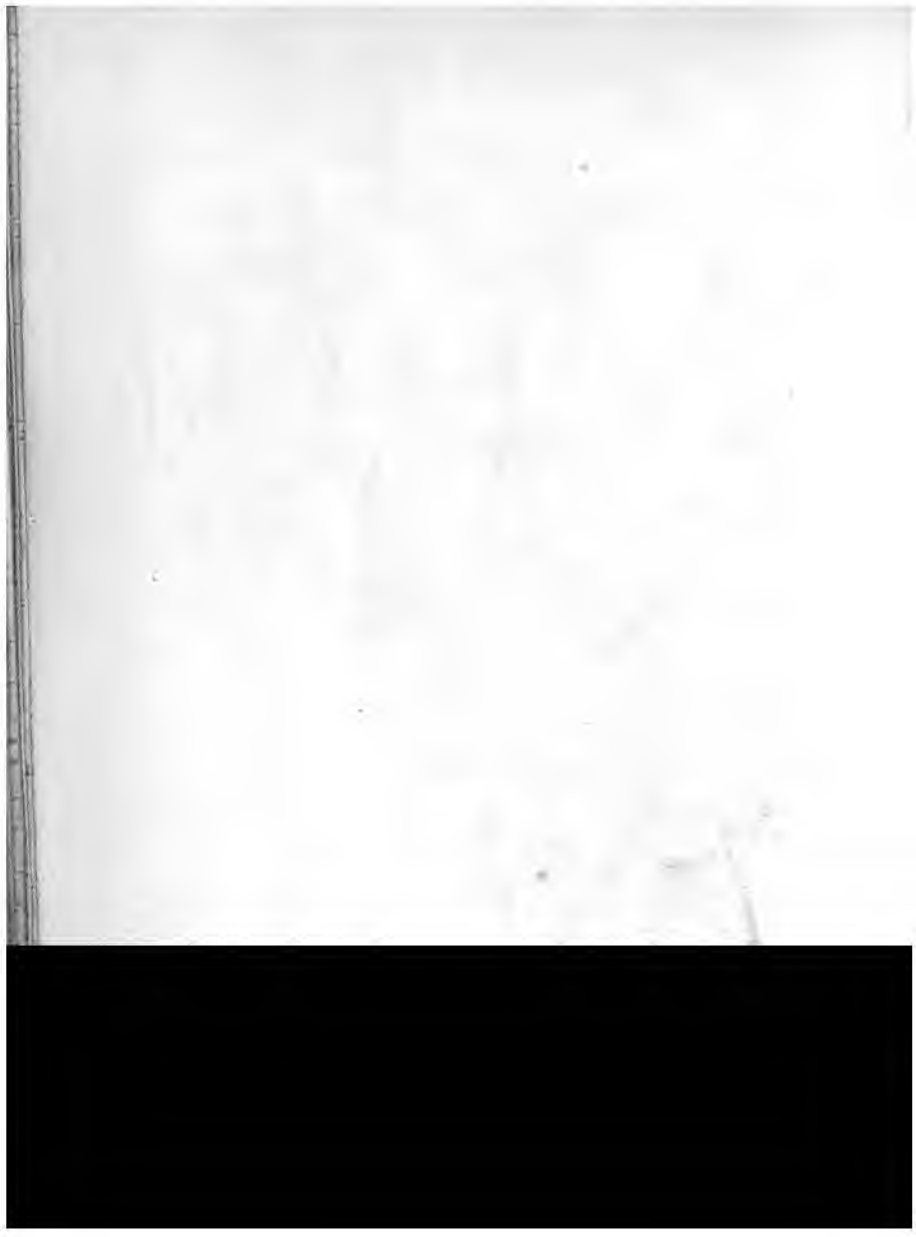


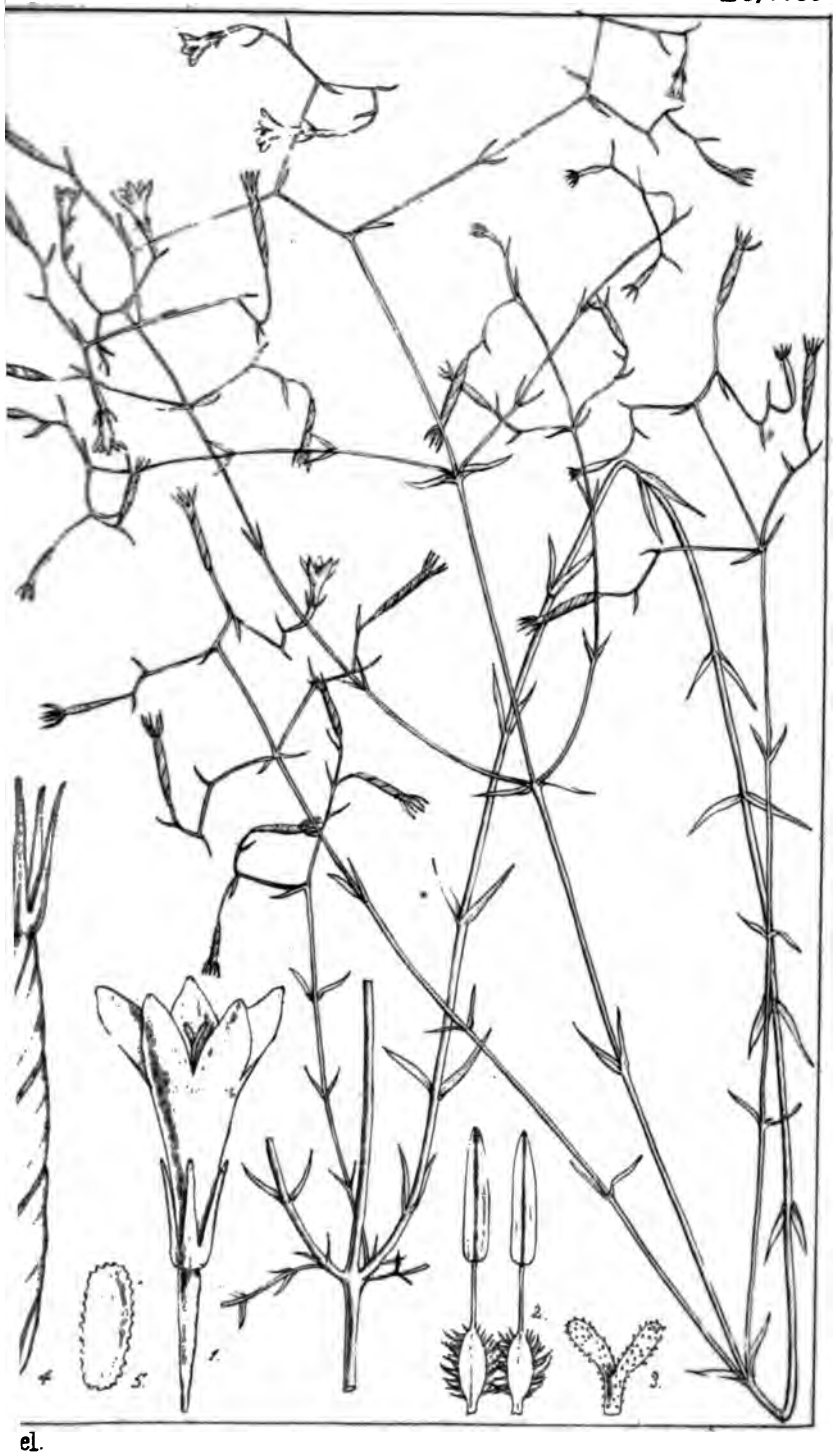
Sonerila Fordii Oliv.

Pseudocarapa Champion*ii*, Hemsl.



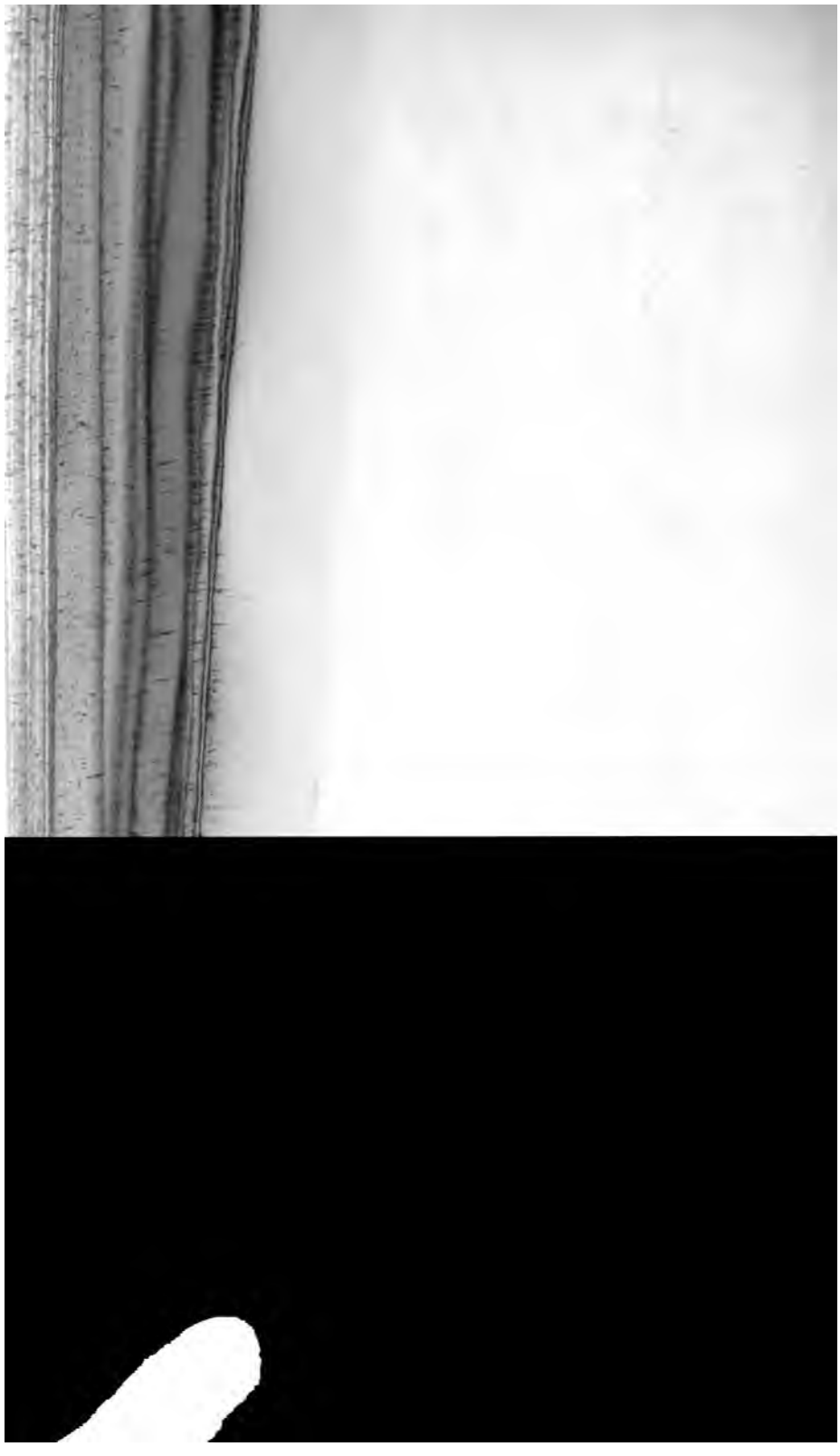
Menodora heterophylla, Mor.



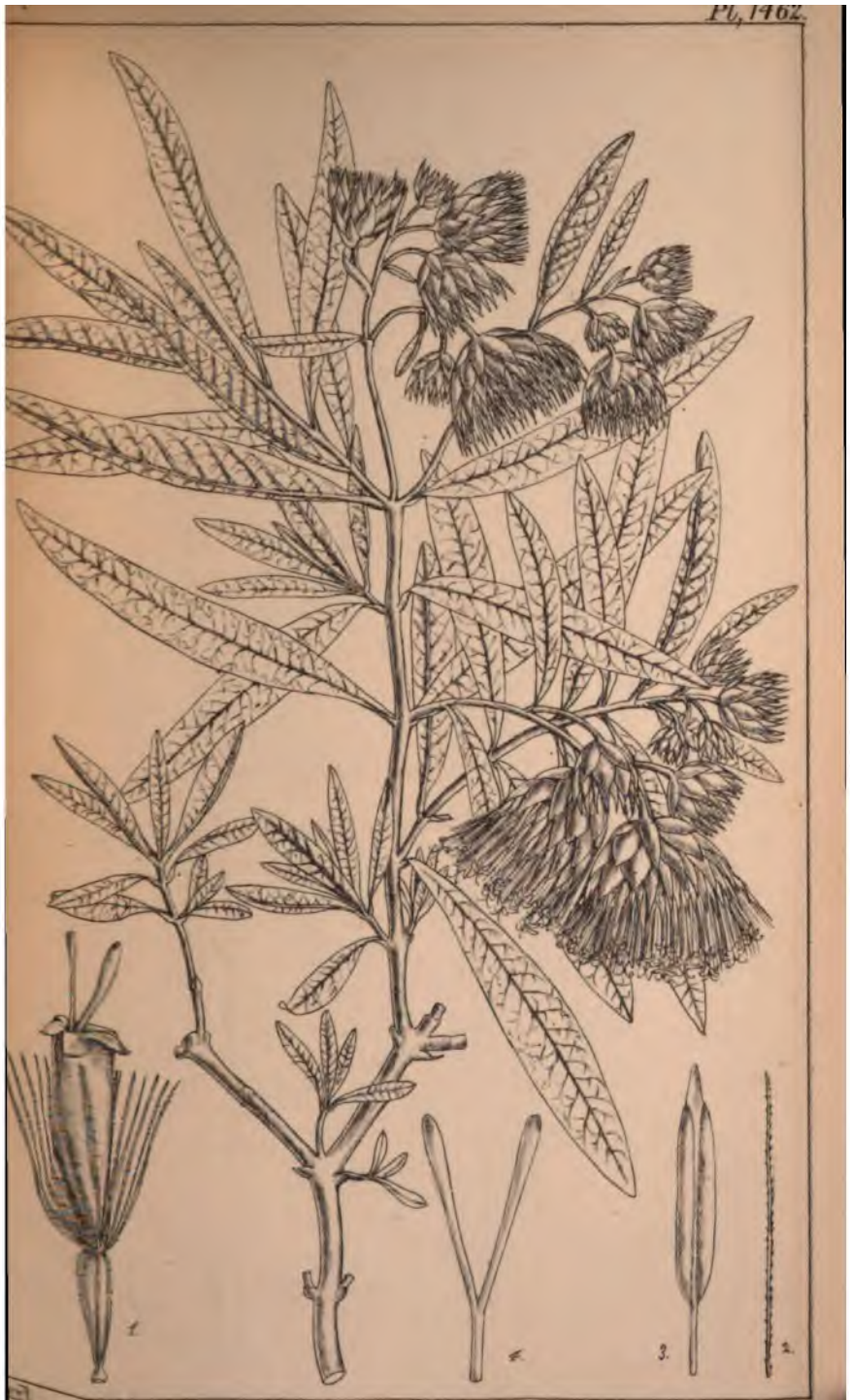


el.

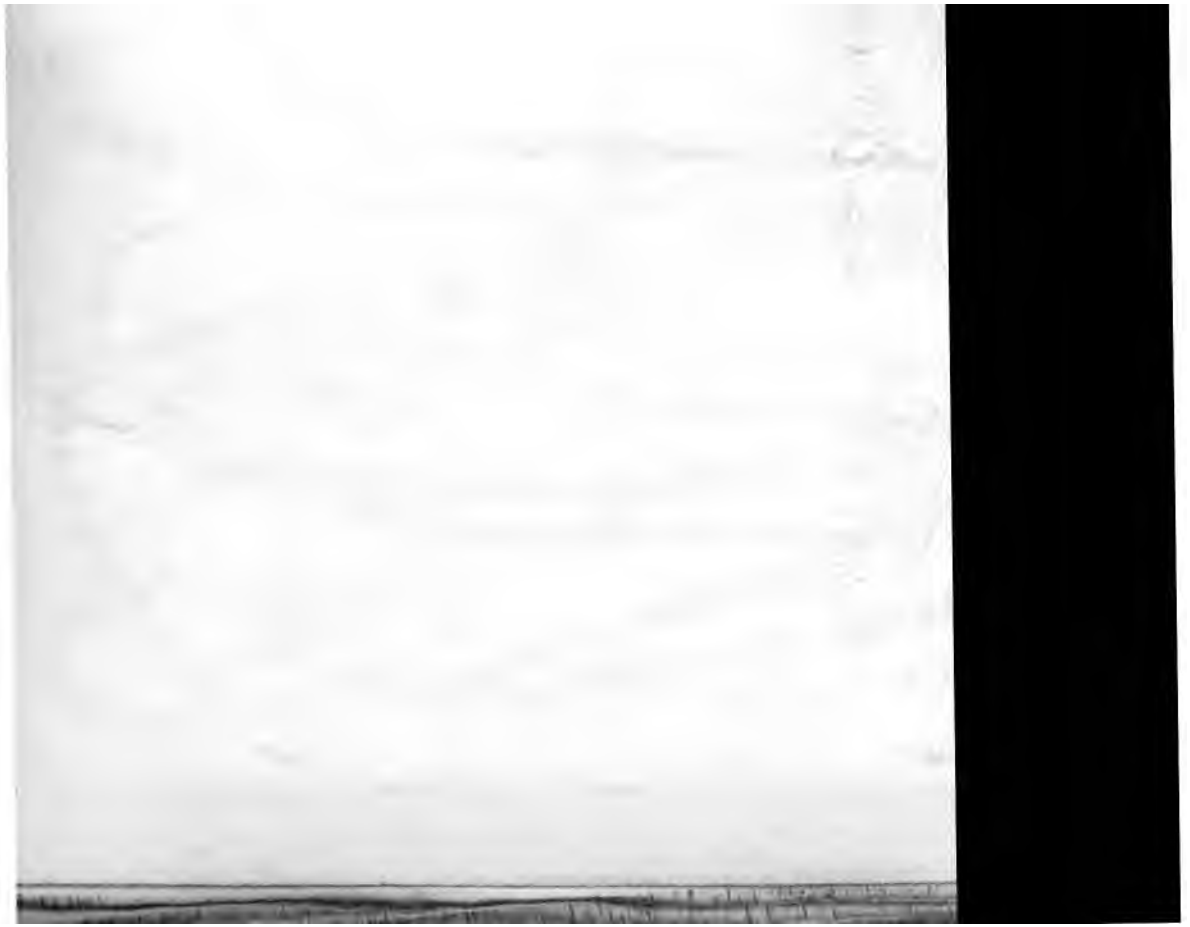
Prismatocarpus tenellus, Oliv.

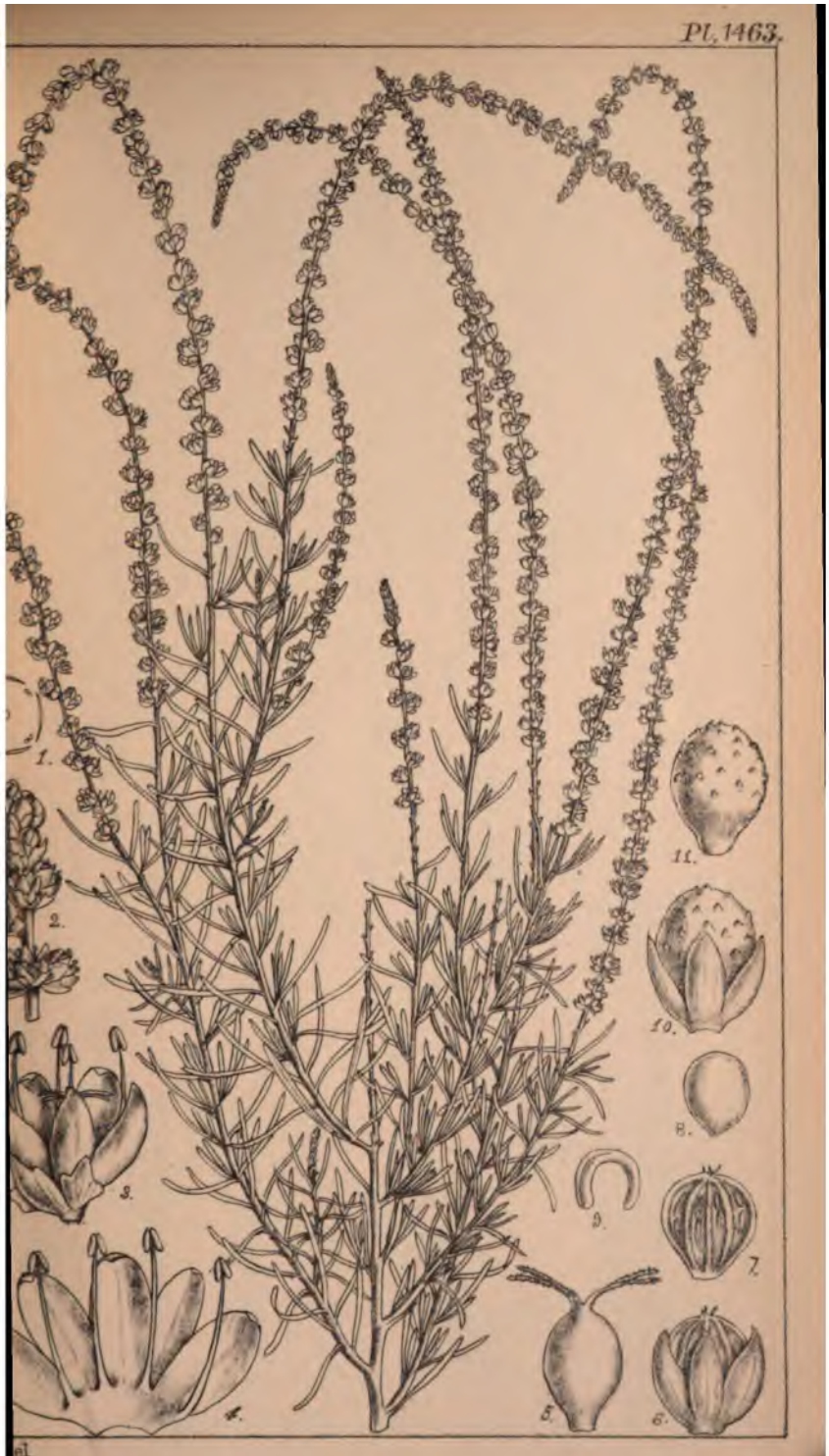


Eupatorium Ballii, Oliv.



Eupatorium Ballii, Oliv.

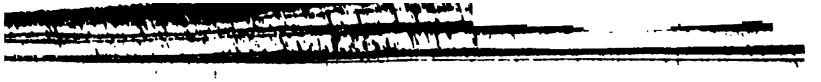


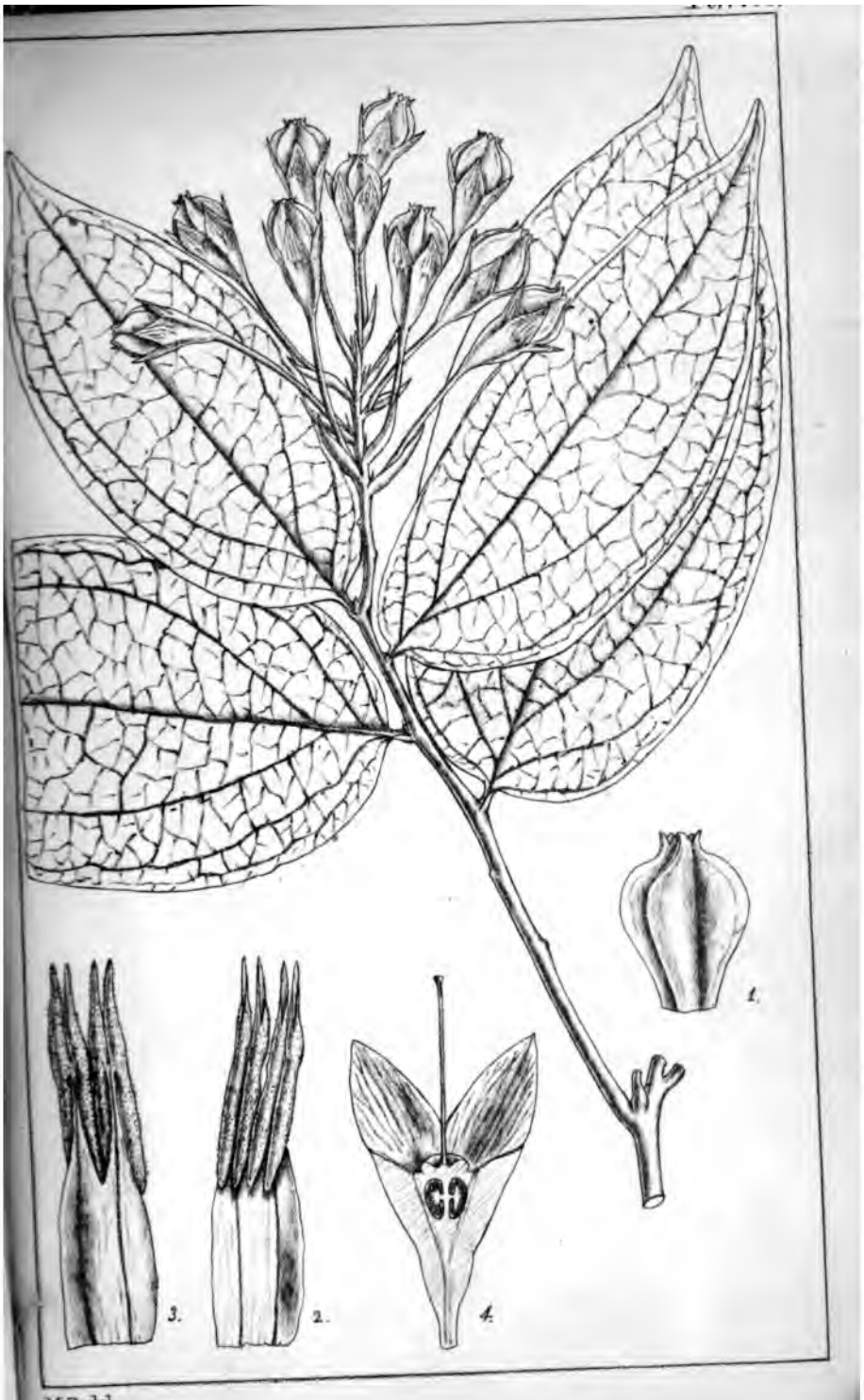


Lophiocarpus Burchellii, Hk. f.

Hel,

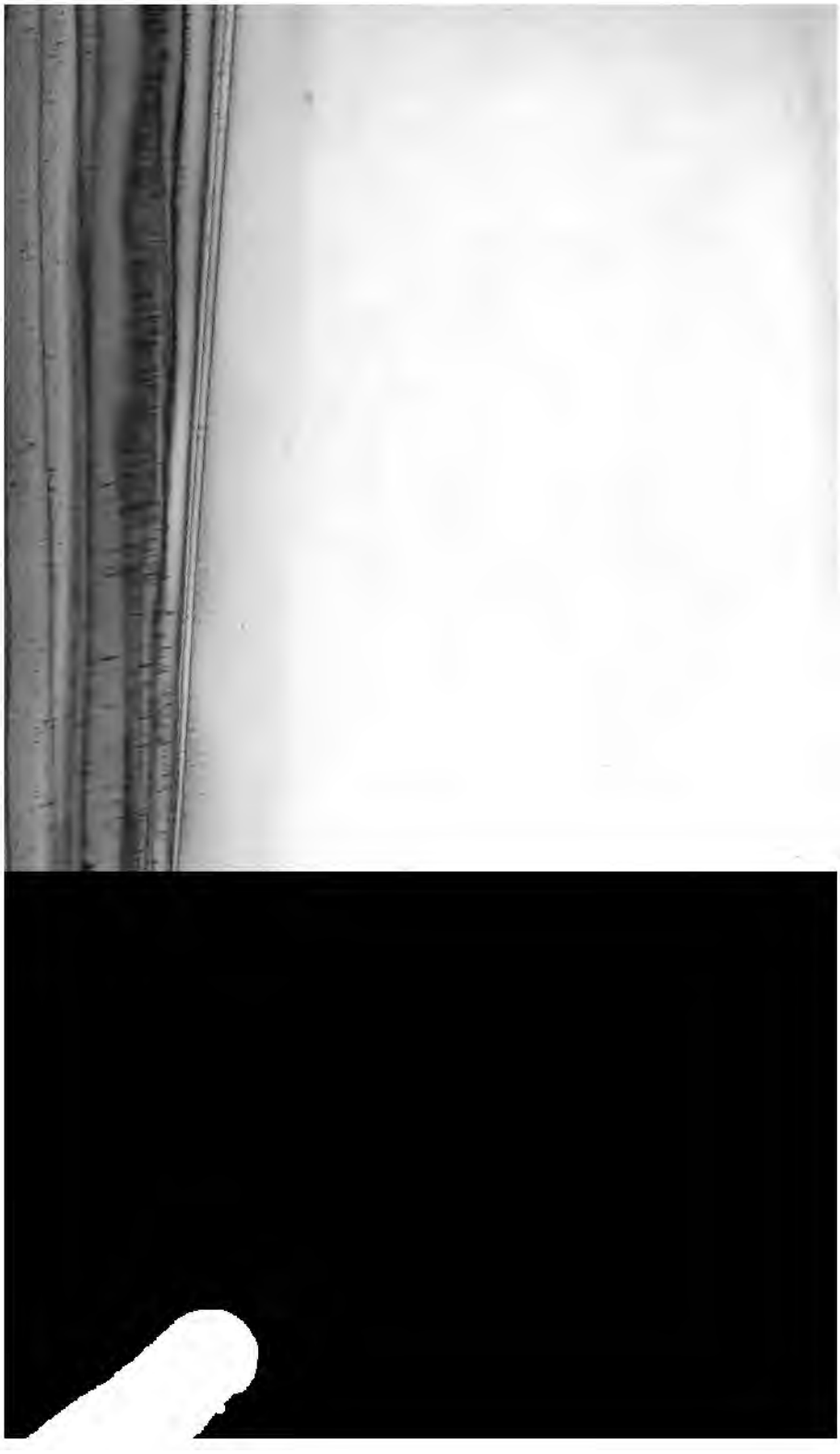
Loranthus rubroviridis, Oliv.

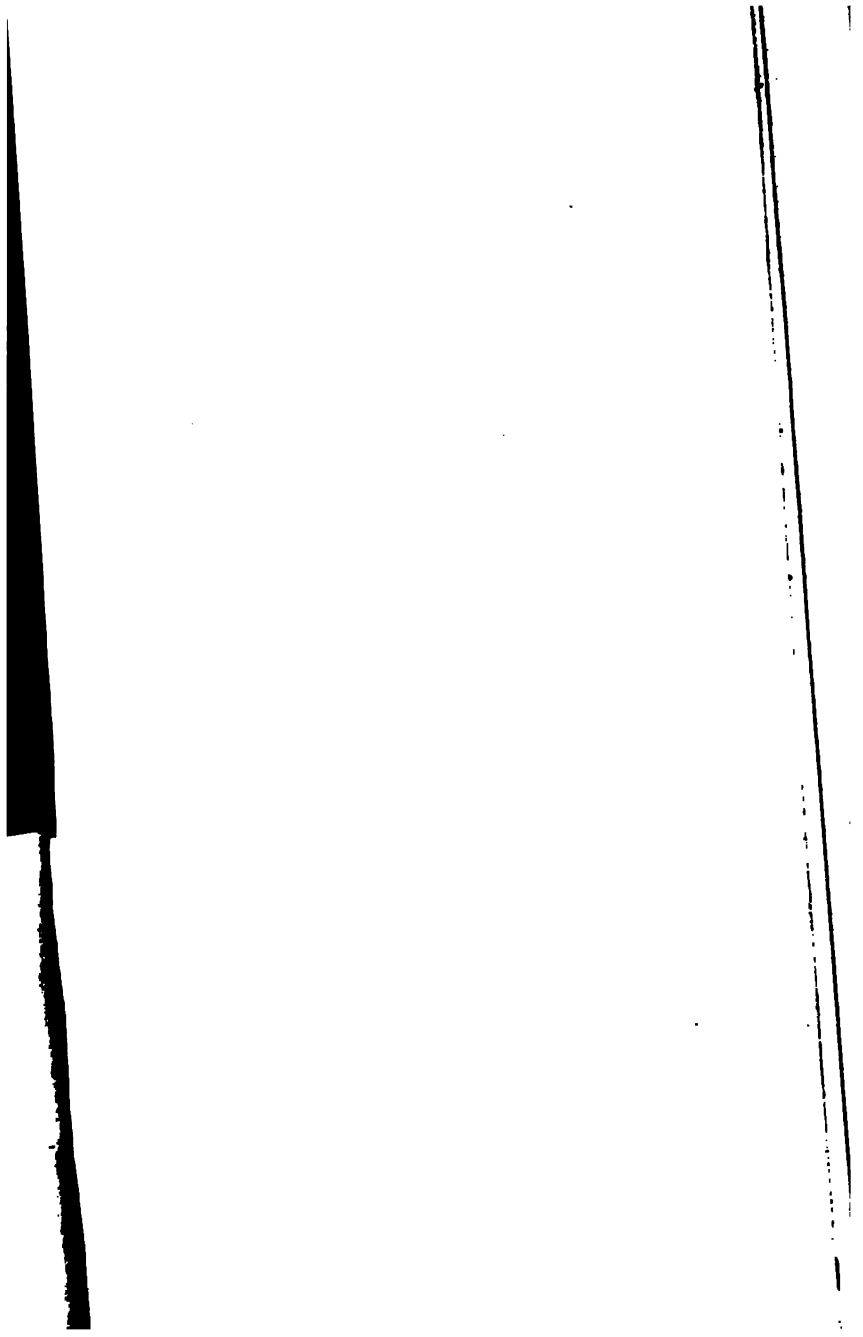




M.S.del.

Anthopterus Wardii, Ball.

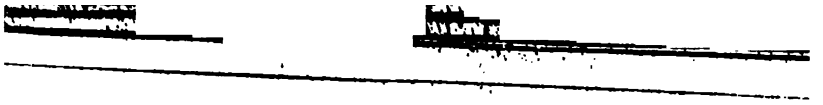




otome inflata, Benth.

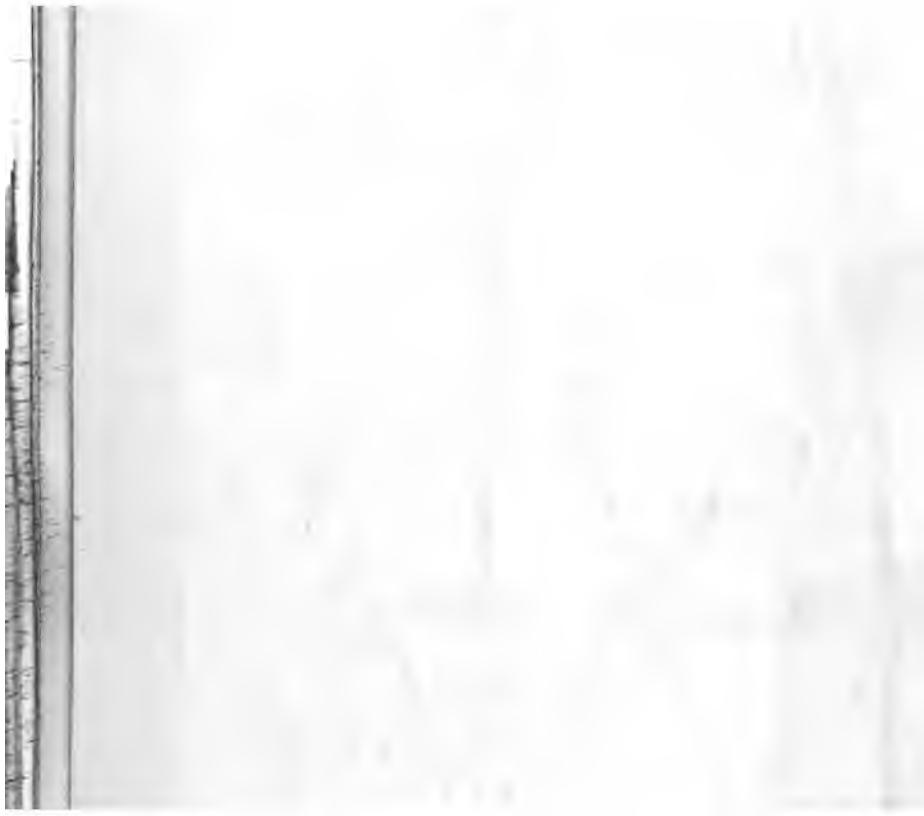
d.

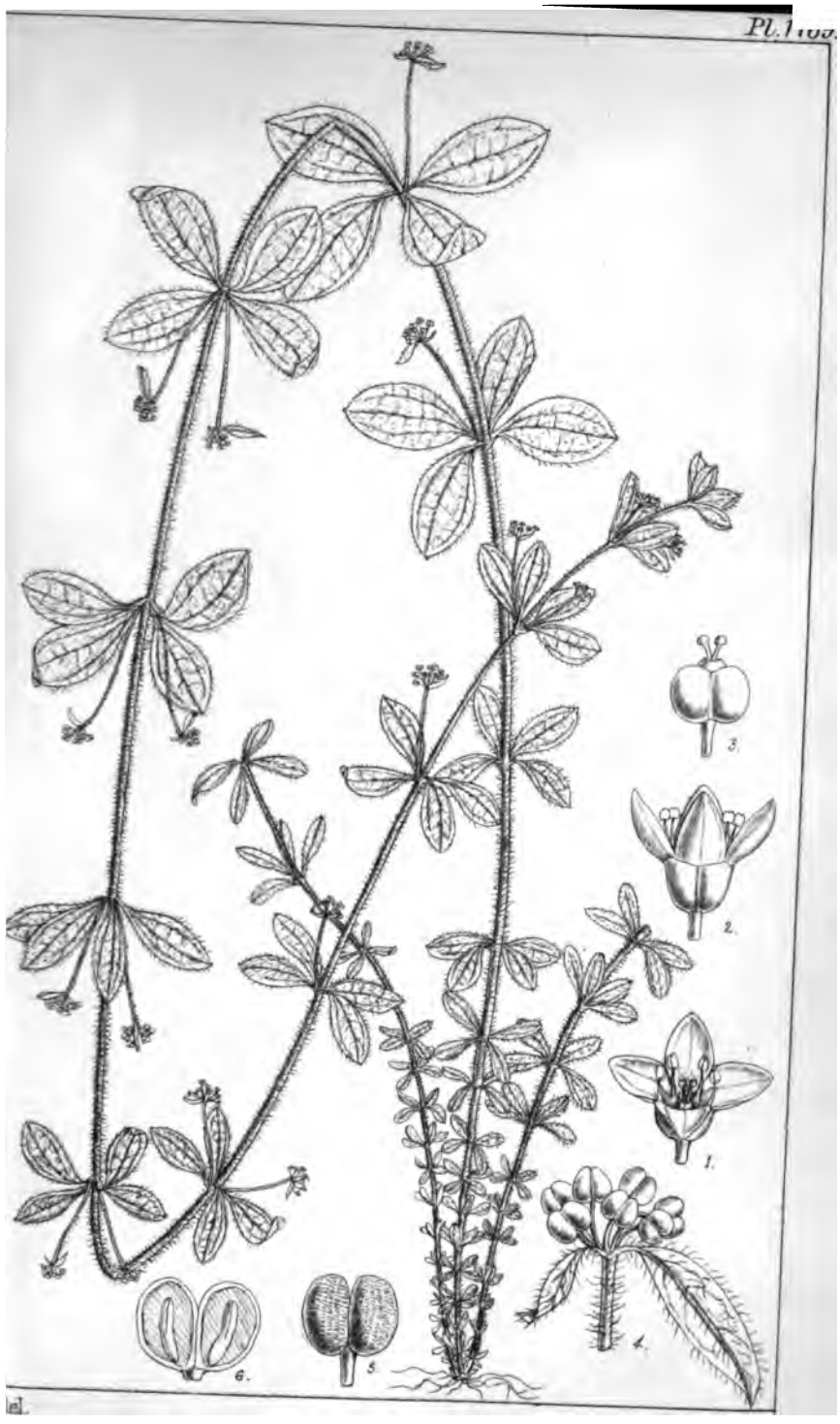
Acrotome inflata Benth.



del.

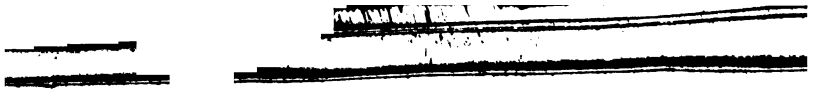
Gomphostemma chinense, Oliv.

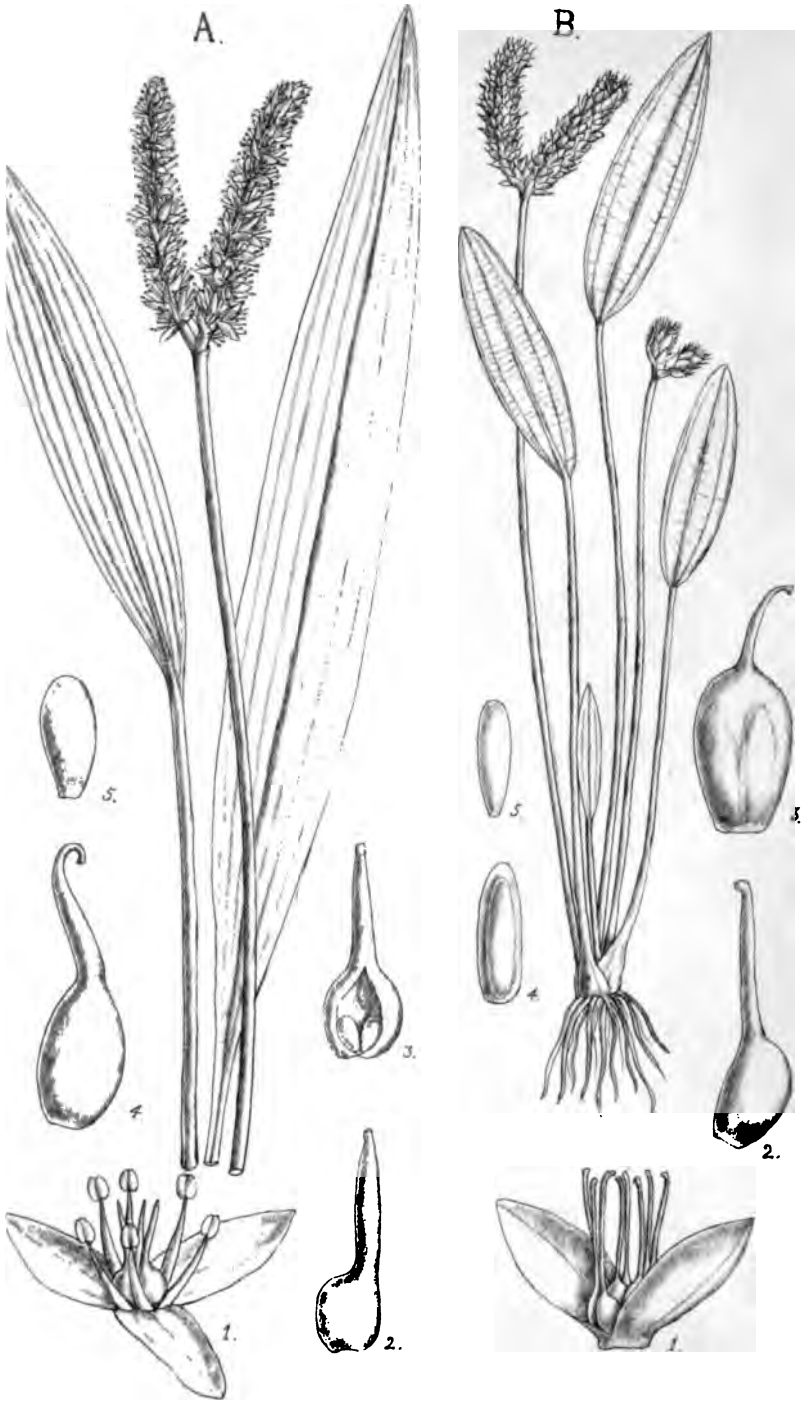




Galium cryptanthum, Hemsl.

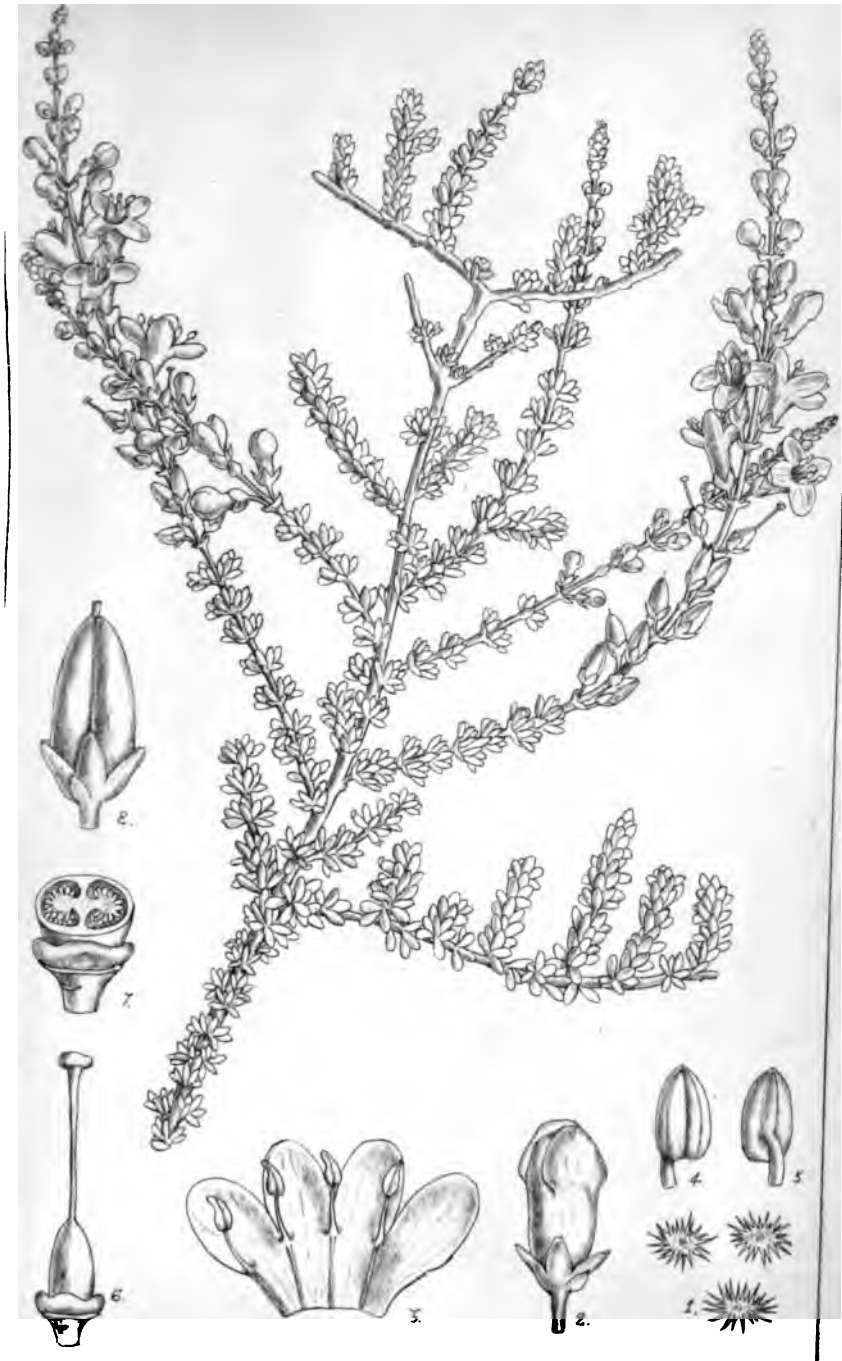
Aponogeton Holubii, Oliv.





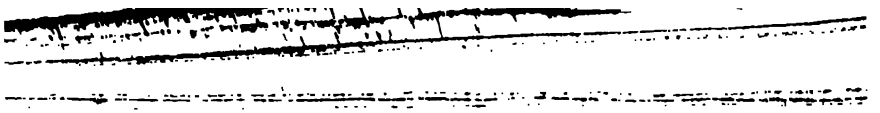
S.del.

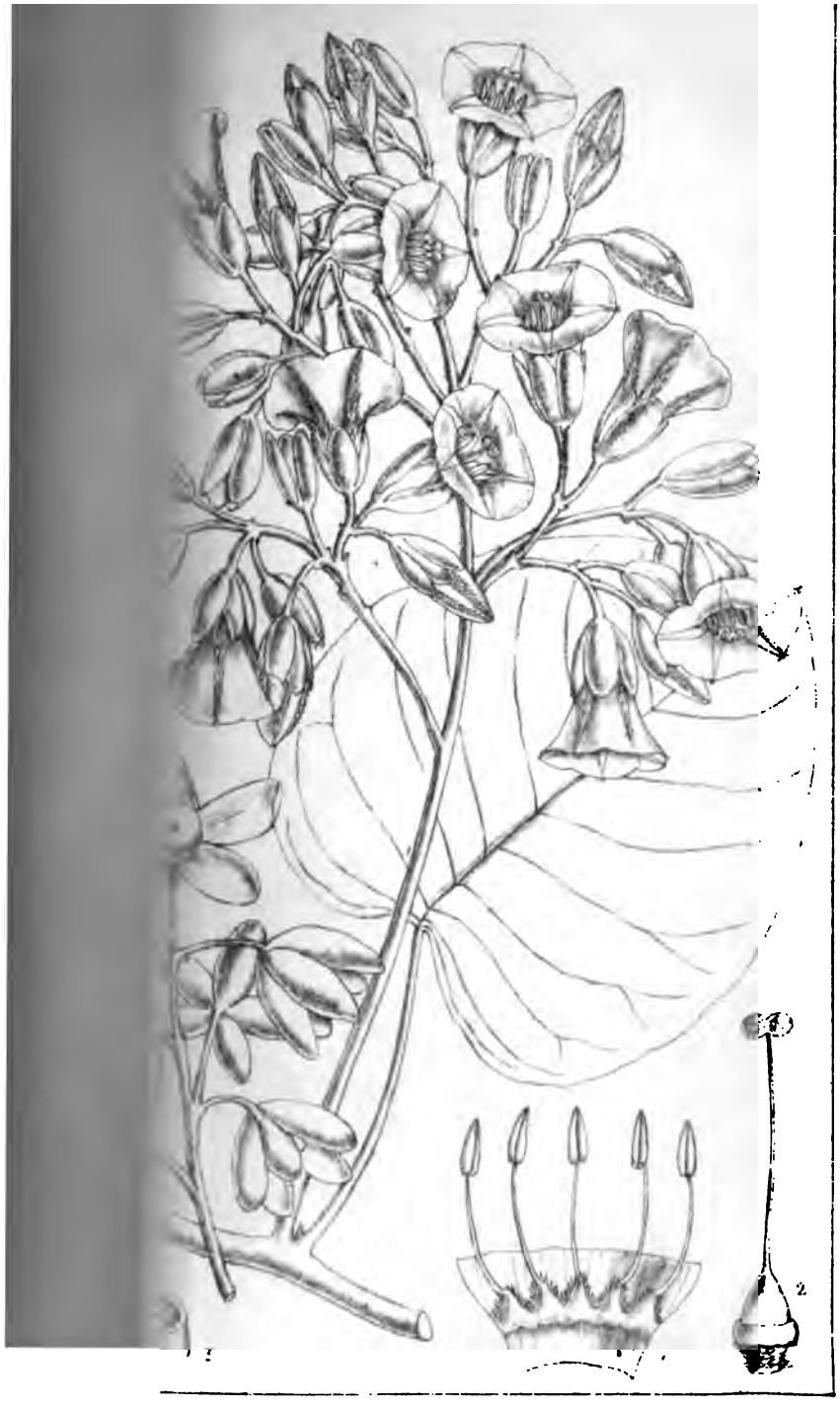
A. *Aponogeton natalense*, Oliv.
B. ——— Rehmanni, Oliv.



S.del.

Gomphostigma incanum, Oliv.

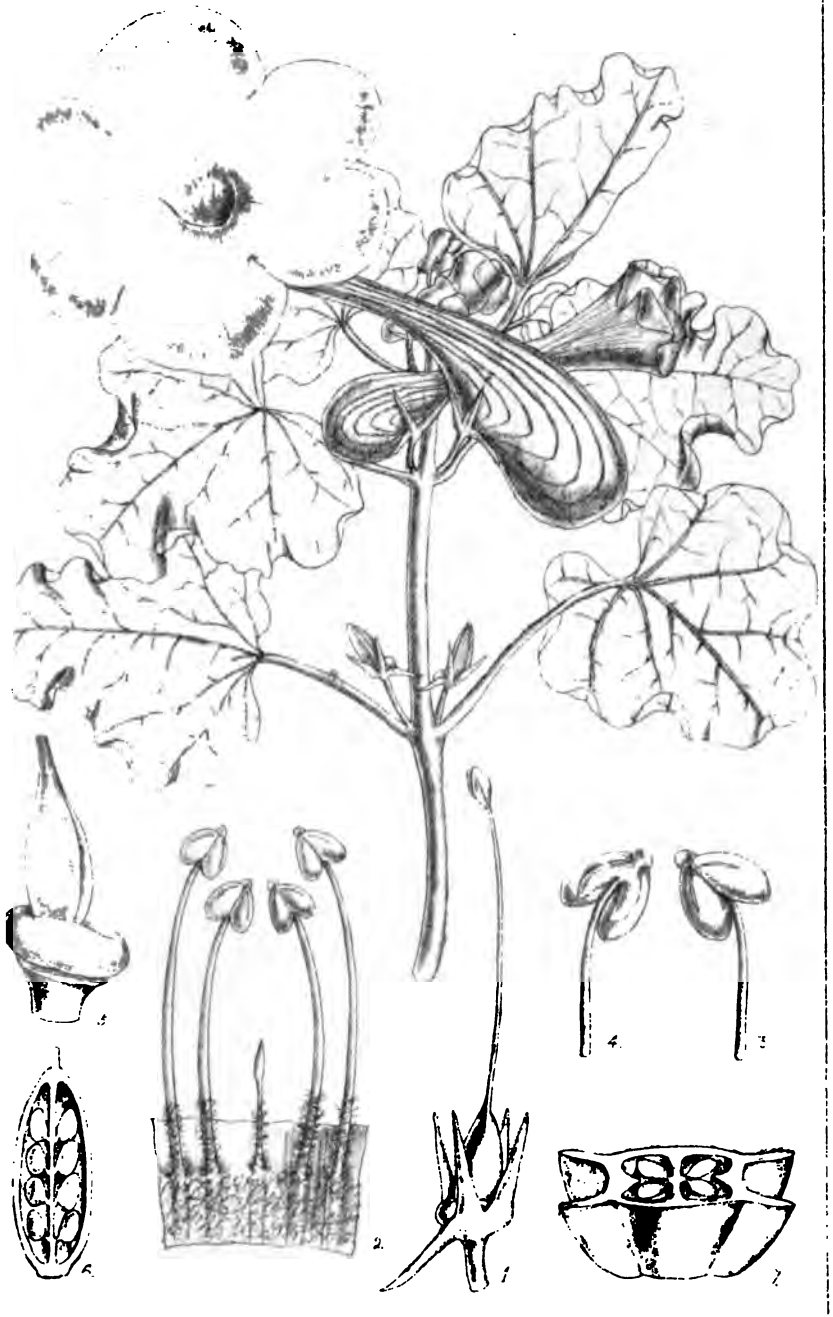




Ipomæa shirensis, Oliv

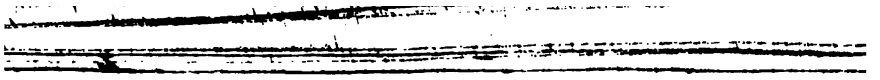
M.S.del.

.Ipomæa shirensis, Oliv



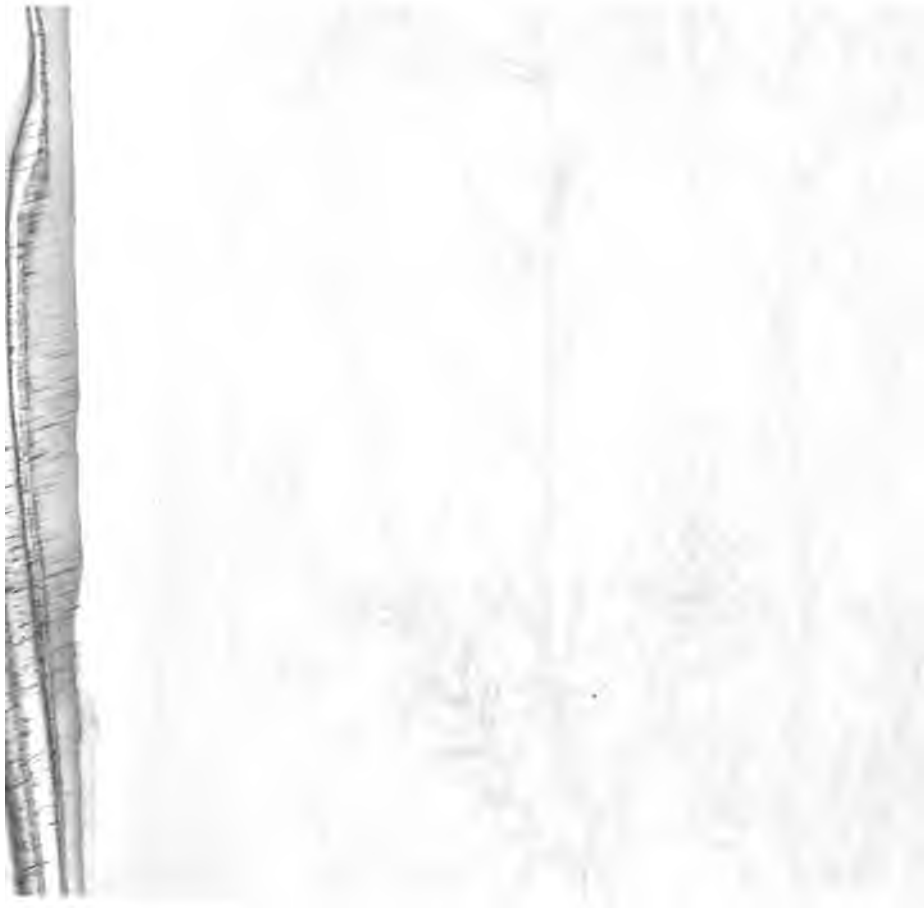
S.del.

Holubia saccata, Oliv.



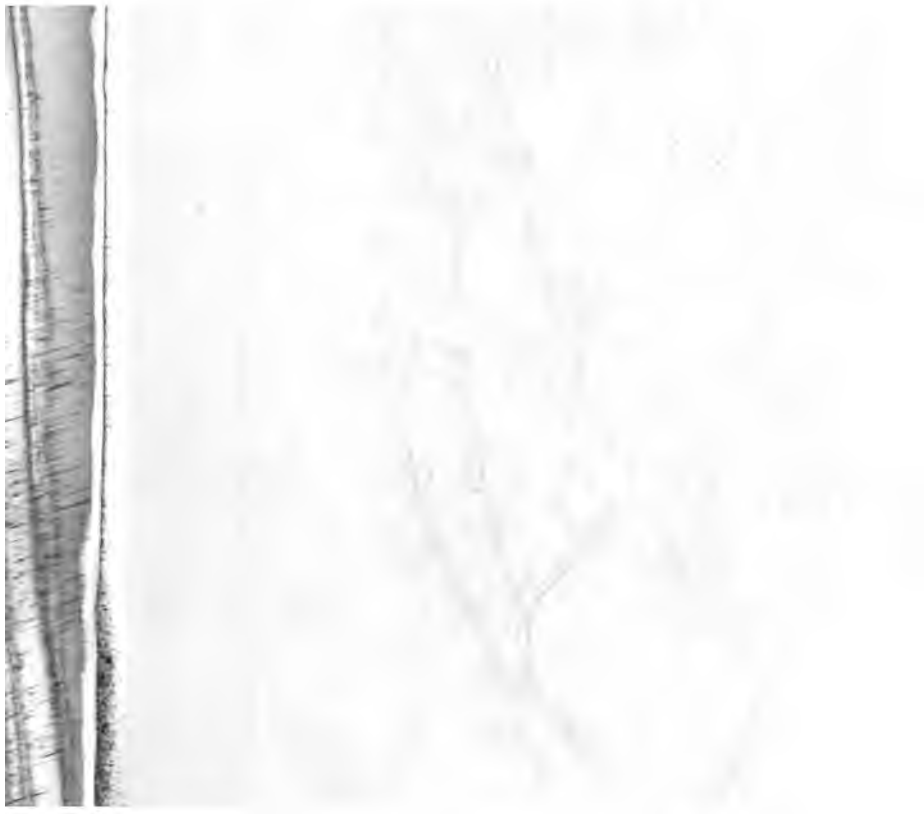
I. S. del. et lith

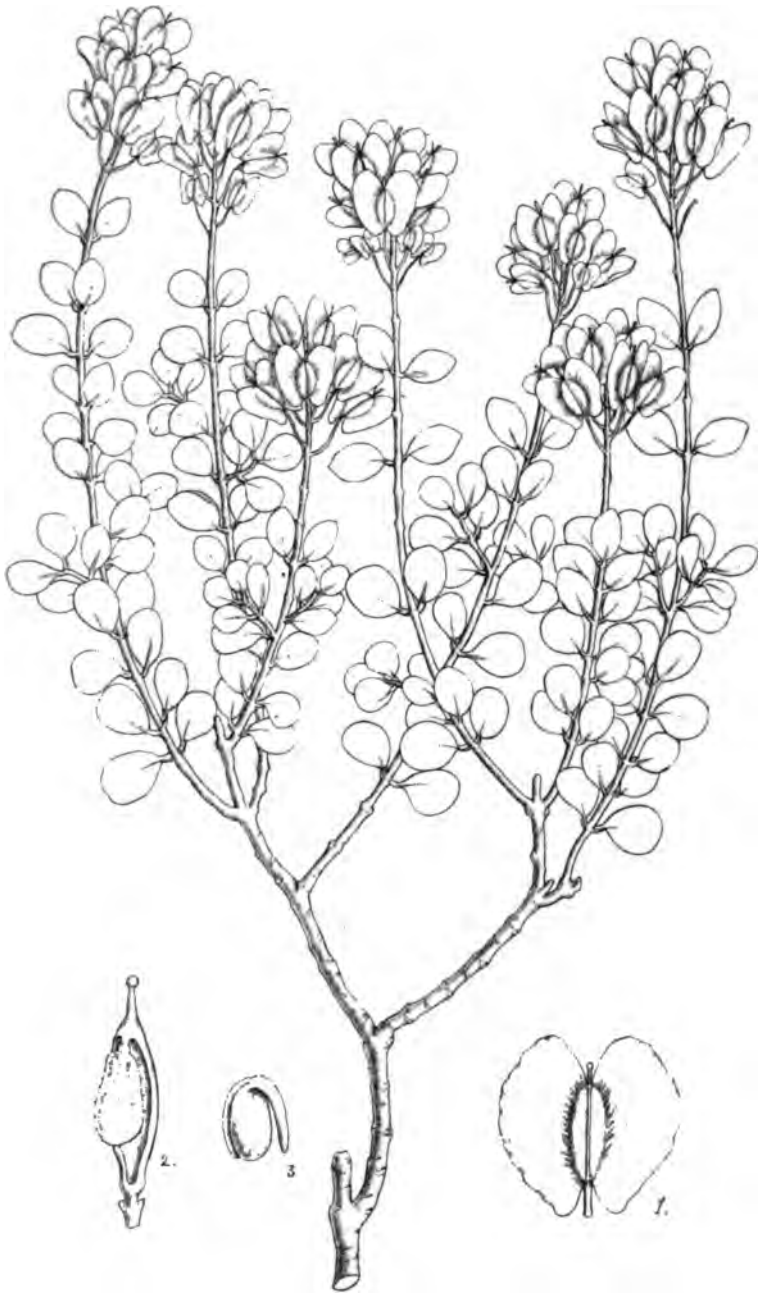
Diosma flavescens, Oliv.



M.S. del. et lith.

Alyssum samariferum. Boiss & Haussk.





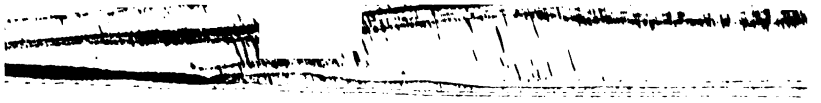
S. del. et lith.

Aethionema spicatum, Post.

[redacted]

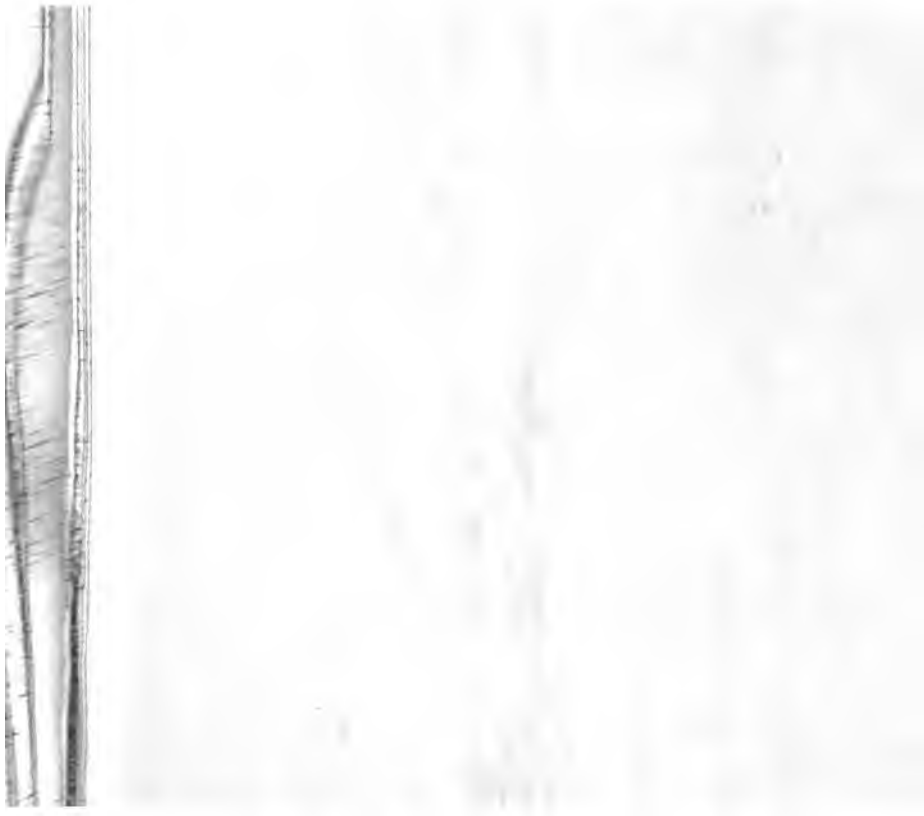
M.S. del. et lith.

Craterostigma nanum, Benth. var? elatior.



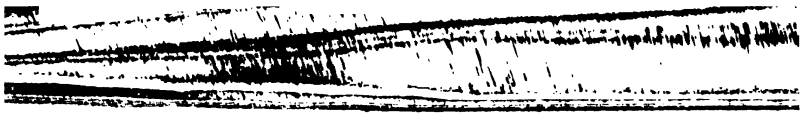
M.S. del. et lith.

Trichocladus grandiflorus, Oliv.



M.S. del. et lith.

Garnotia polypogonoides, Munro.



M. S. del, et lith.

Callilepis salicifolia, Oliv.

M. S. del. et lith.

Senecio segmentatus, Ohv.

M.S. del et lith.

Tryphostemma Hanningtonianum, M.T.M.

M. S. del. et lith.

Oncoba lasiocalyx, Oliv.

Hyobanche atropurpurea, Bolus.

M. S. del. et lith.

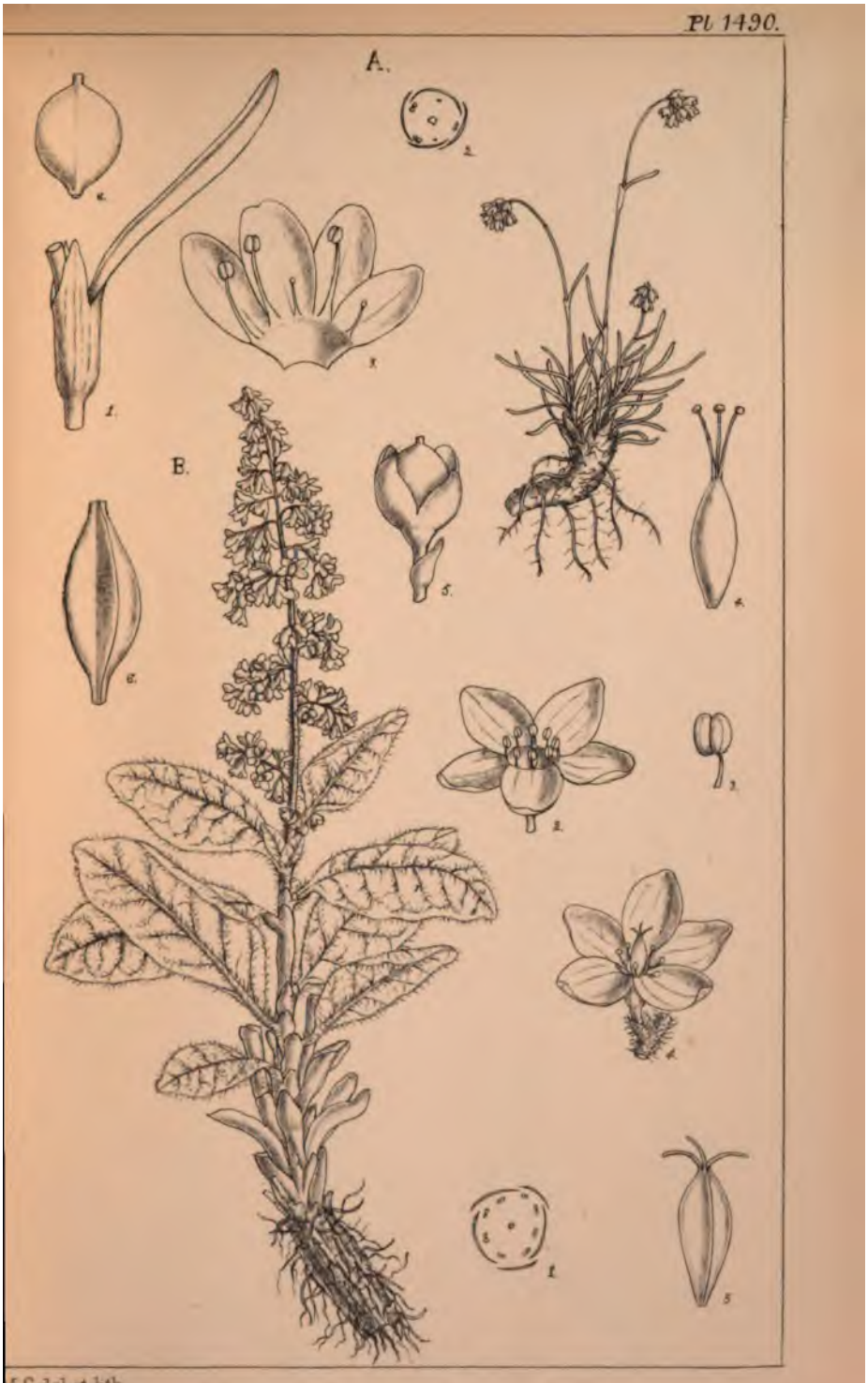
Begoniella angustifolia, Oliv.

S. del. et lith.

Hymenodictyon parvifolium, Oliv.

M.S. del. et lith.

Turræa Wakefieldii, Oliv.

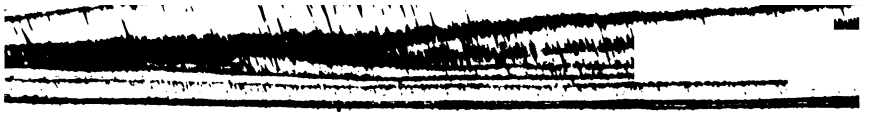


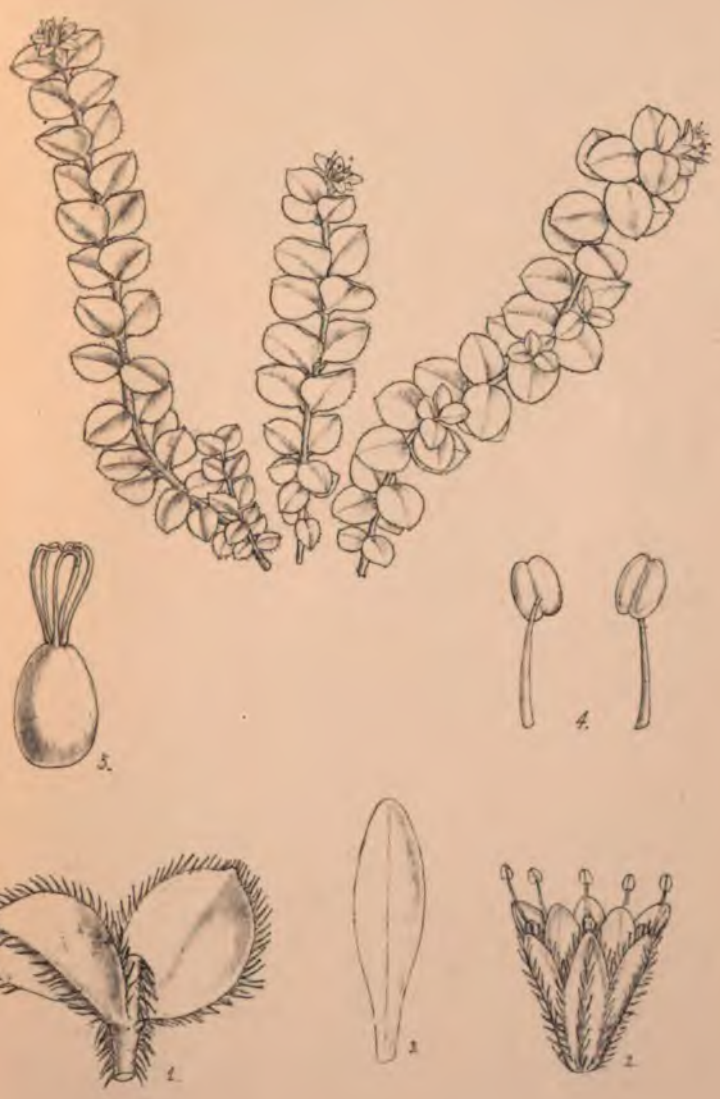
M.S. del. et lith.

A. Polygonum perpusillum, Hk.f.
B. Polygonum acaule, Hk.f.

I. S. del. et lith.

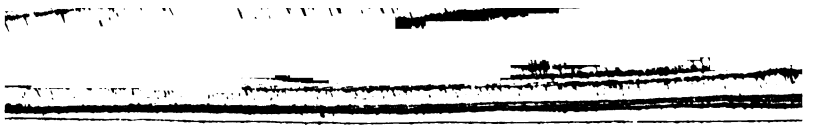
Anemone Thomsoni, Oliv.





M.S.del.et.lith

Uebelinia rotundifolia, Oliv



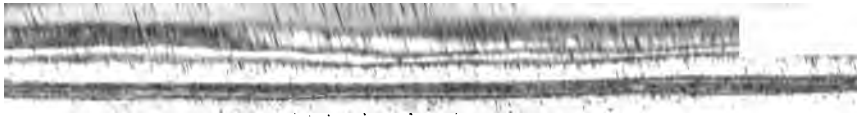
Struthiola Thomsoni, Oliv.

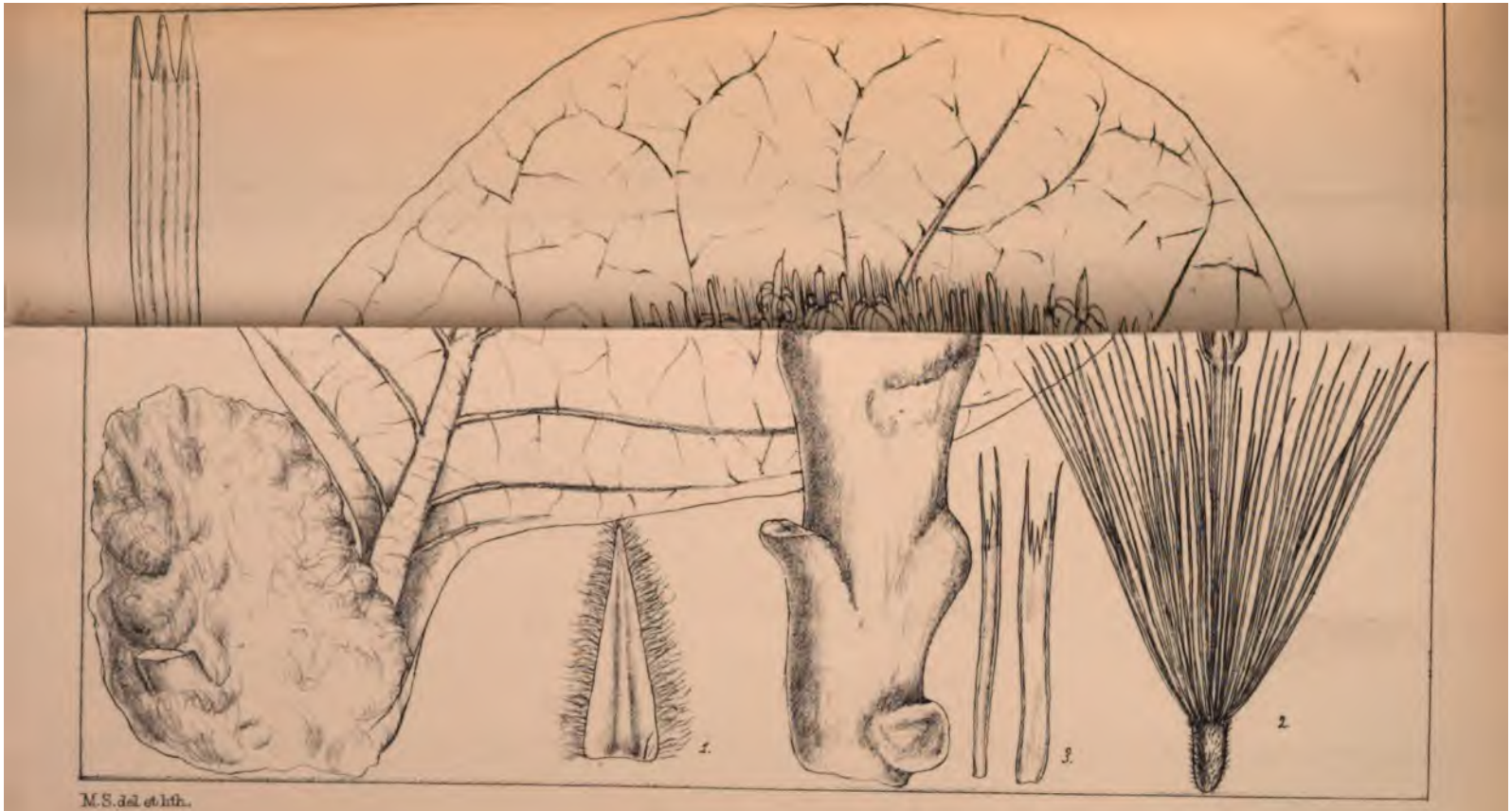
M.S. del. et lith.

Crotalaria Thomsoni, Oliv.

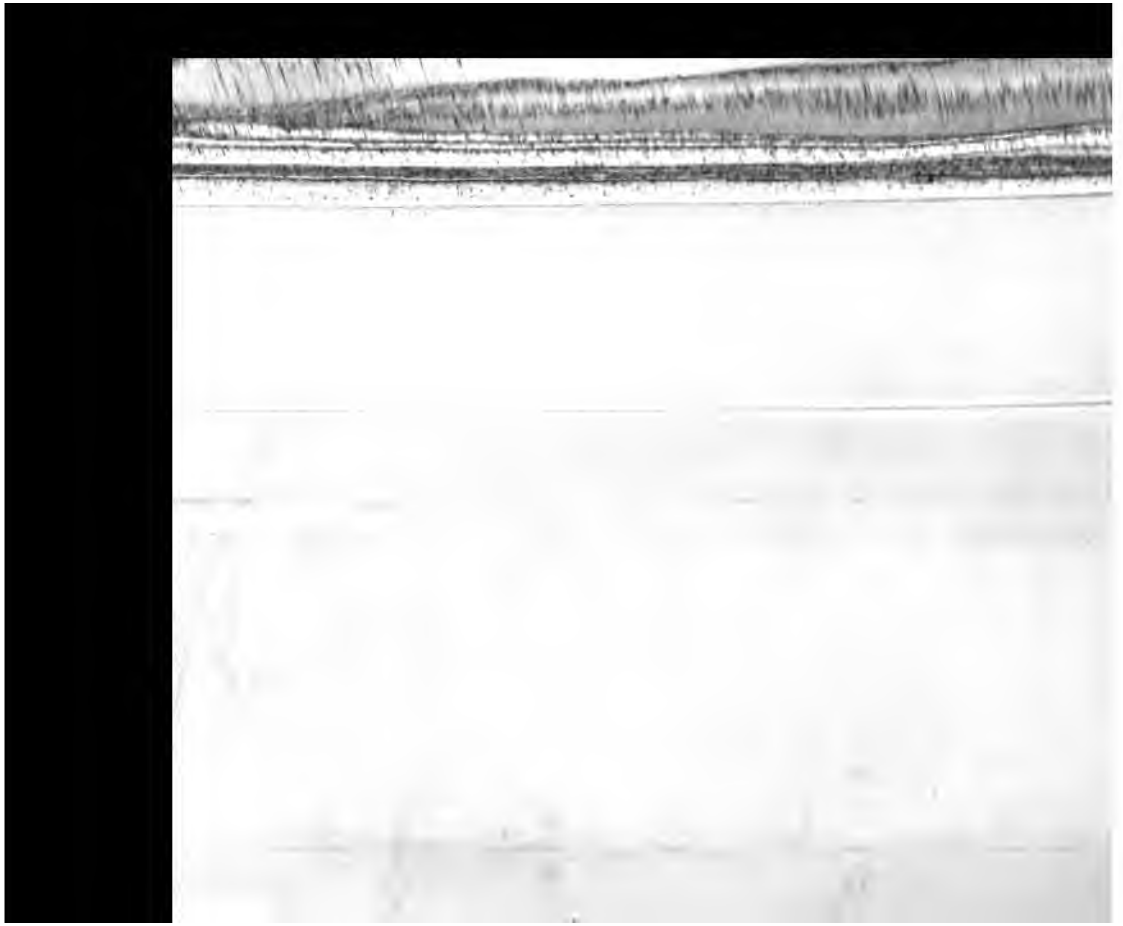
M. S. del et lith.

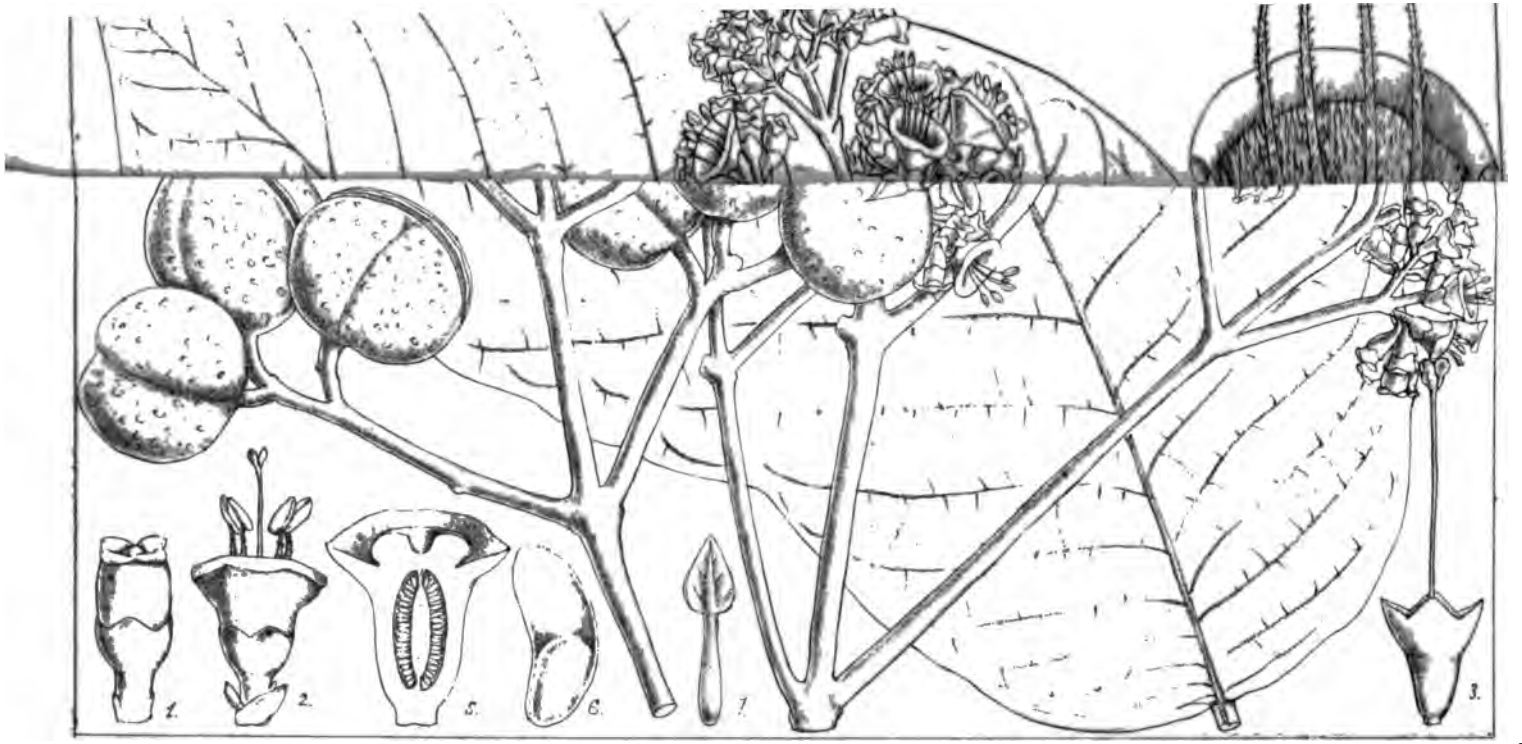
Leucas masaiensis, Oliv.



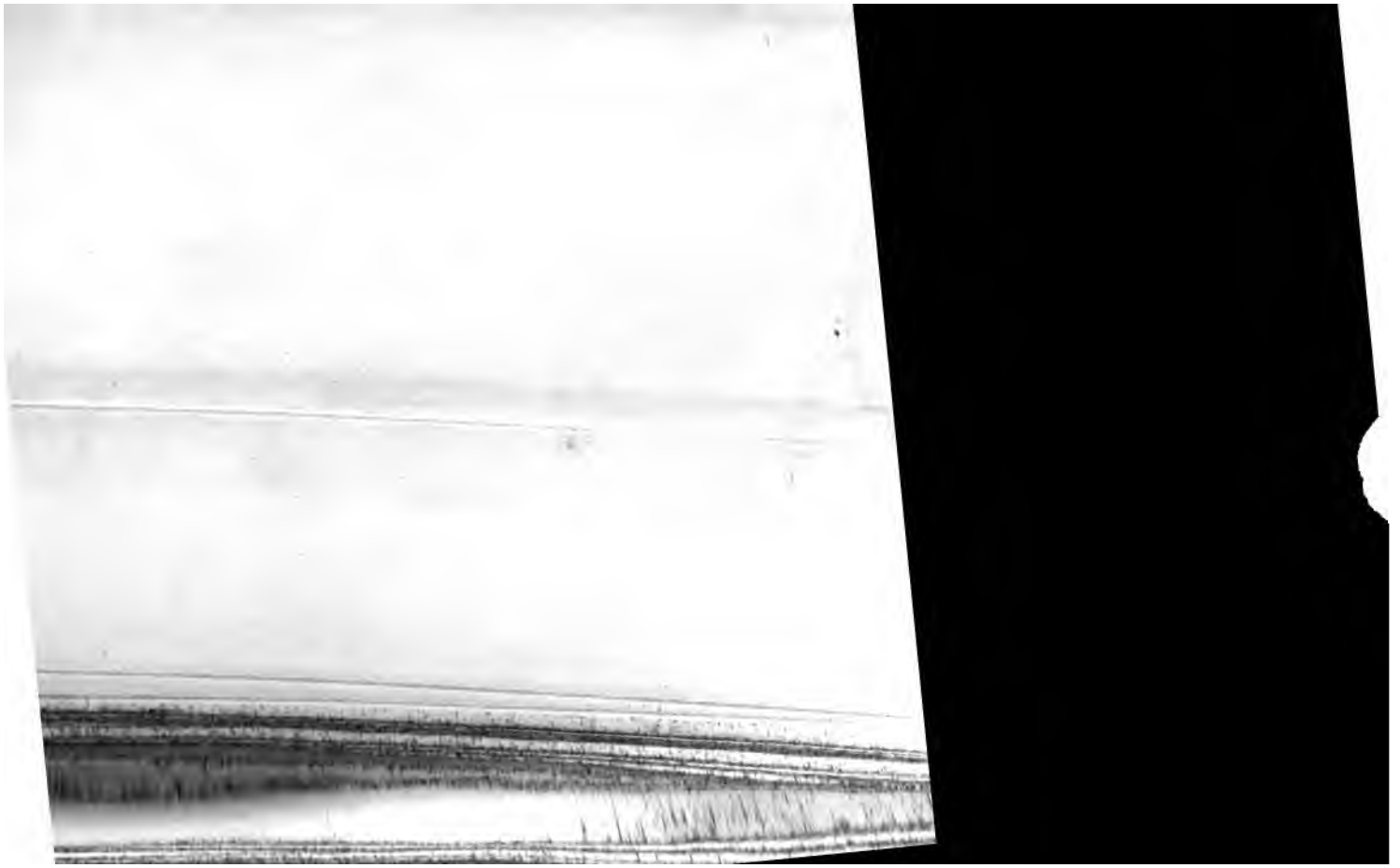


Wunderlichia mirabilis. Ried.

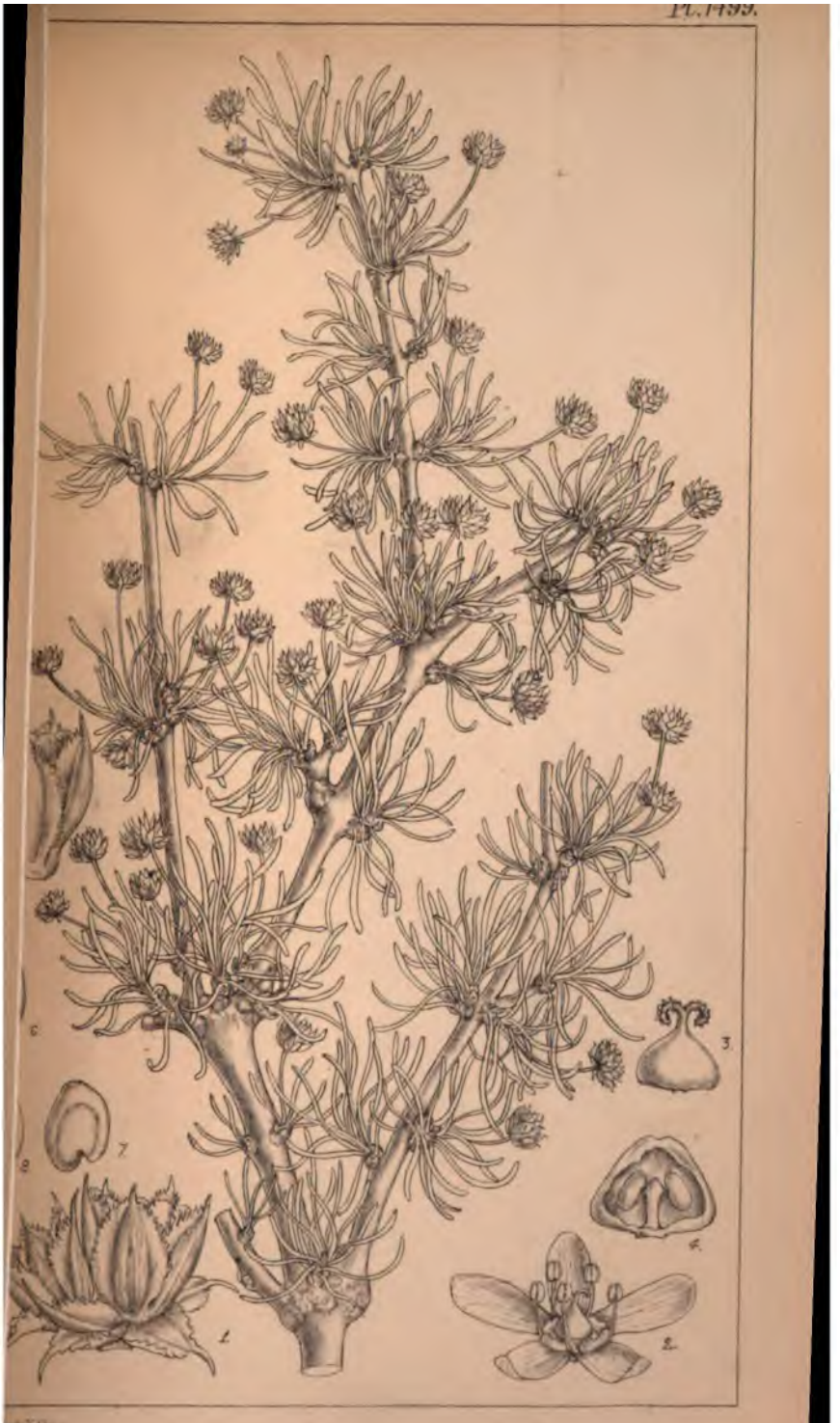




Sickingia Erythroxylon, W.



Sickingia longifolia, W.



Psyllothamnus Beevori, Oliv.

del, et lith

...charis Bennettiana, Rchb. f.